

Attachment 1

James A. FitzPatrick Nuclear Power Plant

Description and Evaluation of Proposed Changes

DESCRIPTION AND EVALUATION OF THE PROPOSED CHANGES

SUBJECT: Revise the James A. FitzPatrick Emergency Plan to Address the Permanently Defueled Condition

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1.0 SUMMARY DESCRIPTION

This evaluation supports a request to amend the Renewed Facility Operating License (OL) DPR-59 for the James A. FitzPatrick Nuclear Power Plant (JAF).

The proposed changes would revise the JAF Emergency Plan, on-shift staffing, and Emergency Response Organization (ERO) staffing to support the planned permanent cessation of operations and permanent defueling of the JAF reactor (Reference 1).

An analysis of proposed post-shutdown on-shift staffing (post-shutdown OSA) was performed to provide the basis for the proposed changes to the on-shift staffing. On-shift staffing at JAF currently consists of:

- 1 Shift Manager
- 1 Control Room Supervisor
- 1 Field Support Supervisor/Shift Technical Advisor
- 3 Senior Nuclear Operators
- 6 Nuclear Plant Operators
- 1 Radiation Protection Technician
- 1 Chemistry Technician

The Fire Brigade complement currently consists of one of the Senior Nuclear Operators and four of the listed Nuclear Plant Operators (NPOs).

The post-shutdown OSA demonstrated that an on-shift complement of eight personnel is able to cope with the spectrum of analyzed events in the permanently defueled condition because the consequences of credible events will be reduced when compared to the events that can occur with an operating reactor. The on-shift complement will consist of:

- 1 Shift Manager
- 1 Control Room Supervisor
- 3 Nuclear Plant Operators
- 1 Radiation Protection Specialist
- 2 additional fire brigade qualified staff

The number of on-shift and ERO staff at JAF following permanent defueling will be reduced from current normal operating levels, but are commensurate with the need to safely store spent fuel at the facility in a manner that is protective of public health and safety. The Fire Brigade complement will consist of the three NPOs listed above and two other fire brigade qualified staff.

In the permanently shutdown and defueled condition the title of Radiation Protection Technician will be changed to Radiation Protection Specialist.

ENO has reviewed the proposed changes against the planning standards in 10 CFR 50.47(b) and requirements in 10 CFR Part 50, Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," and has concluded that the standards and requirements will continue to be met. Therefore, no exemption from 10 CFR 50.47 or 10 CFR 50, Appendix E is requested.

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2.0 DETAILED DESCRIPTION

The proposed changes would revise the JAF Emergency Plan to reflect the permanently shutdown and defueled condition. Specifically, the proposed changes would eliminate the on-shift positions not needed for the safe storage of spent fuel in the spent fuel pool (SFP) during the initial decommissioning period and eliminate the ERO positions not necessary to effectively respond to credible accidents.

Attachment 2 provides a tabular summary of the proposed changes to the JAF Emergency Plan. Attachment 3 provides the revised pages of the JAF Emergency Plan with the proposed changes shown in strikethrough and underline format. The changes shown in Attachments 2 and 3 include additional changes beyond those involving a reduction in staffing. NRC approval of these additional changes is not being requested, these additional changes are included for informational purposes and will be dispositioned prior to implementation in accordance with the requirements in 10 CFR 50.54(q), "Conditions of Licenses," related to emergency preparedness, and specifically to making changes to emergency response plans.

On-Shift Staffing

Currently, JAF Emergency Plan Table 5-1, "Plant Personnel – Emergency Activity Assignments," specifies the on-shift and augmented staffing for certain positions in the following Major Functional Areas:

- Operations (Assessment of Operational Aspects)
- Emergency Director
- Notification/Communication
- Radiological Accident Assessment
- Radiation Protections Functions/Radiological Surveys (Support of Operational Accident Assessment (In Plant) Protective Actions)
- Plant Systems Engineering
- Repair and Corrective Actions
- Fire Fighting/Rescue Operations and First Aid
- Site Access Control, Security and Personnel Accountability

The proposed changes to the JAF Emergency Plan will eliminate the following on-shift positions:

- 1 Field Support Supervisor / Shift Technical Advisor
- 3 Senior Nuclear Operators
- 3 Nuclear Plant Operators
- 1 Chemistry Technician

Operations on-shift personnel will consist of one Shift Manager (SM), one Control Room Supervisor (CRS) and three NPOs. Title changes for the CRS and NPOs to Certified Fuel Handler (CFH) and Non-Certified Operators (NCOs), respectively, are dependent upon NRC approval of proposed changes to the JAF Technical Specifications (Reference 2) that revise the minimum shift staffing requirements in the JAF Technical Specifications by replacing references to licensed and non-licensed operators with references to CFHs and NCOs. These staffing levels have been evaluated in the JAF analysis of proposed post-shutdown on-shift staffing in conjunction with the postulated accidents that will be applicable in the permanently defueled condition. The analysis is provided in Attachment 4 of this submittal.

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The term NCO is used to differentiate from CFH. CFHs will supervise fuel handling operations in the permanently defueled condition. CRSs and SMs will be qualified as CFHs. However, the SM requires additional qualification beyond the CFH training. Therefore, any reference to the CFH position throughout this submittal is considered to be equivalent to the current CRS position. NCOs will perform duties typically associated with those performed by NPOs, such as manipulation and monitoring of plant equipment. NPOs will also be assigned to monitor indications and communications in the Control Room. Reference 3 submitted a CFH training program for NRC approval. Dedicated Senior Nuclear Operators will not be utilized in the permanently defueled condition.

The NCO training program will be developed in accordance with 10 CFR 50.120. The NPO/NCO position will combine the post-shutdown duties of the licensed Senior Nuclear Operator and the non-licensed NPO. The specific training requirements of the NPO/NCO position will be drafted by the JAF Training Department and will be reviewed and approved by Operations Management. The training requirements will include classroom training in theory and systems topics, administrative procedures, off-normal and transient procedures/mitigation strategies, and refuel platform operations. The training program will be designed with an emphasis on systems/processes important to maintaining SFP cooling and monitoring and controlling SFP parameters, such as SFP water level and temperature. Consequently, the NPOs/NCOs will be trained on pertinent Control Room indications and controls that will be monitored and operated to maintain SFP cooling and SFP water level, in addition to plant radiological conditions. The NCO training program will also include training on applicable aspects of the JAF Emergency Plan-related NCO duties.

Although non-licensed NPOs are currently trained to function as the Emergency Plan Communicator, JAF makes no specific commitment to train NCOs in this role because it is anticipated that the two CFHs will maintain responsibility for Emergency Plan communications.

Personnel assigned to fill the NCO positions during the post-shutdown period, prior to implementation of the Permanently Defueled Emergency Plan (approximately 15 to 18 months following permanent cessation of operations), will include both previously licensed and non-licensed operators. The majority of the required training for the NCO position will already have been completed by the licensed operators, because they have previously been trained and qualified as Reactor Operators to support power operations. The current NPOs have been trained and qualified as non-licensed operators only. Therefore, it is expected they will require additional training related to Control Room operations.

Once the specific training requirements for the NCO position have been identified using a systematic approach to training, as required by 10 CFR 50.120, a formal gap analysis will be completed for all operators identified to fill the NCO position. Individualized training plans will be developed and completed to address specific knowledge and skill areas for the selected NCO candidates. This will include training the currently qualified NPOs on Control Room indications, controls, and procedures. The initial training for any new NCOs will include all training requirements for the NCO position to ensure the personnel are equipped with the required skills and knowledge to perform their required job functions.

The proposed changes to the on-shift organization are identified in Section 5.1, "Normal Plant Organization," of the JAF Emergency Plan, Table 5-1, and Figure 5-2, "Defueled Emergency Staffing On Shift Response Organization" in Attachment 3.

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Emergency Response Organization Staffing

Currently, JAF Emergency Plan Table 5-1 specifies the on-shift and augmented staffing for certain positions in the Major Functional Areas identified above. The proposed changes to the JAF Emergency Plan will eliminate the augmented Technical Support Center (TSC) Reactor Engineer position identified in Table 5.1 as the Core Thermal/Hydraulic Engineer.

The proposed changes to the JAF Emergency Plan will also eliminate the following ERO positions currently identified in Section 5.3, "Augmented Onsite Emergency Organization," of the JAF Emergency Plan:

- TSC Manager
- Emergency Operations Facility (EOF) Manager

The proposed changes to the JAF Emergency Plan will eliminate ERO positions currently identified in Emergency Plan Implementing Procedures (EPIPs) describing the activation and operation of the TSC, EOF, Operations Support Center (OSC), and Joint Information Center (JIC). Several of these positions are described in JAF EPIPs as positions required to meet the augmentation requirements of the emergency plan and positions needed to declare the Emergency Response Facilities (ERFs) operational. The proposed changes to the JAF Emergency Plan will also eliminate non-minimum (i.e., not required for augmentation or facility activation) ERO positions currently identified in EPIPs as support personnel. Specific ERO positions identified for elimination are listed in Table 1 of this attachment. The table also identifies whether each position is currently required to meet the augmentation requirements of the JAF Emergency Plan.

2.1. Reason for the Proposed Changes

The proposed changes are desired to reflect the pending permanent cessation of operation and permanent defueling of the JAF reactor at the end of the current operating cycle. After the reactor is shut down, all fuel assemblies will be removed from the reactor vessel and placed in the SFP. The irradiated fuel will be stored in the SFP and in the Independent Spent Fuel Storage Installation (ISFSI) until it is shipped offsite in accordance with the schedules that will be described in the Post-Shutdown Decommissioning Activities Report (PSDAR) and updated Irradiated Fuel Management Plan. Upon docketing of the certifications for permanent cessation of operations (10 CFR 50.82(a)(1)(i)) and permanent removal of fuel from the reactor vessel (10 CFR 50.82(a)(1)(ii)), pursuant to 10 CFR 50.82(a)(2), the 10 CFR Part 50 license for JAF will no longer authorize operation of the reactor or emplacement or retention of fuel into the reactor vessel.

The proposed revisions to the JAF Emergency Plan are commensurate with the reduction in hazards associated with the permanently defueled condition and will allow JAF to transition from a staffing level required for an operating facility to that required for a permanently defueled facility. The proposed changes are required to properly reflect the conditions of the facility while continuing to preserve the JAF Decommissioning Trust Fund and the effectiveness of the JAF Emergency Plan.

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2.2. Background

On-Shift and ERO Staffing

NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," (Reference 4), Section II.B, "Onsite Emergency Organization," presents guidance for meeting the planning standards and requirements of 10 CFR 50.47(b) and 10 CFR 50, Appendix E, Section IV.A. The guidance describes the onsite emergency organization, including the staffing requirements found in Table B-1, "Minimum Staffing Requirements for NRC Licensees for Nuclear Power Plant Emergencies." This table specifies a minimum of ten on-shift responders in four Major Functional Areas. It also specifies seven on-shift response functions where the duties may be performed by shift personnel who are assigned other functions (i.e., there are no dedicated responders to perform these functions). Table B-1 specifies two Major Functional Areas (i.e., firefighting and site access control/personnel accountability) which must be staffed on a site-specific basis.

The on-shift staff must be able to cope with a spectrum of events until augmenting ERO personnel arrive in accordance with the site's emergency plan commitments. The augmenting ERO responders assume managerial, engineering, and administrative duties from the on-shift personnel, allowing on-shift personnel to focus on their assigned functions.

On November 23, 2011, the NRC published a final rule in the Federal Register amending certain emergency preparedness (EP) requirements in its regulations that govern domestic licensing of production and utilization facilities (Reference 5). This final rule amended 10 CFR Part 50, Appendix E, Section IV.A, "Organization," to address the assignment of tasks or responsibilities to on-shift ERO personnel that could potentially overburden them and prevent the timely performance of their emergency plan functions. Specifically, Section IV.A.9 states that licensees shall perform "...a detailed analysis demonstrating that on-shift personnel assigned emergency plan implementation functions are not assigned responsibilities that would prevent the timely performance of their assigned functions as specified in the emergency plan."

Coincident with the rule change in 10 CFR Part 50, Appendix E, Section IV.A.9, the NRC issued NSIR/DPR-ISG-01, "Interim Staff Guidance – Emergency Planning for Nuclear Power Plants" (Reference 6). This Interim Staff Guidance (ISG) provides information relevant to performing the on-shift staffing analysis. The ISG states that the Nuclear Energy Institute (NEI) developed NEI 10-05, "Assessment of On-Shift Emergency Response Organization Staffing and Capabilities," (Reference 7) to establish a standard methodology for a licensee to perform the required staffing analysis, and that the NRC reviewed NEI 10-05 and found it to be an acceptable methodology for this purpose. The ISG also indicates that the completed staffing analyses are required to be part of the emergency plan and the results documented and submitted to the NRC in accordance with 10 CFR 50.54(q)(5).

2.3 JAF Specific Background

On-Shift Staffing

In December 2012, an On-Shift Staffing Analysis was performed in accordance with the NEI 10-05 guidance to satisfy the requirements of 10 CFR 50, Appendix E Section IV.A.9. This analysis examined the capability of the minimum staff listed in Table 5-1 of the JAF Emergency Plan to perform the key emergency response actions for events described in the ISG until augmenting ERO staff arrive. The analysis was conducted by a cross disciplinary team of corporate Emergency

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Preparedness personnel and station personnel from the Operations, Training, Radiation Protection, Chemistry, Licensing and Emergency Preparedness departments. Additionally, members of the Security staff provided input to the analysis.

The emergency response to each of the events described in the ISG was determined by conducting a tabletop of the event using the emergency plan and procedures and the applicable departmental procedures such as emergency and off-normal procedures.

Each scenario was reviewed by the cross disciplinary team to determine what plant actions and emergency plan implementation actions were required based on plant procedures prior to staff augmentation. These actions were then compared to the minimum staffing for emergency response implementation as described in Table 5-1, ensuring that no actions were assigned to staff members that conflicted with either their dedicated emergency response role or their dedicated operational role, as appropriate. In cases where multiple tasks were assigned to an individual, the team evaluated the timing of the tasks to ensure that they could be performed by the individual in series within any specified time requirements. The Design Basis Accident scenarios considered in the analysis were the control rod drop accident (CRDA), loss of coolant accident (LOCA), fuel handling accident (FHA), and main steam line break (MSLB) accident.

The analysis was updated in October 2013 to incorporate the use of a dual-role individual to perform the function and task of the STA as allowed by NEI 10-05 and concluded that an on-shift staff of fourteen (14) is required to respond to the most limiting accident scenario reviewed, which was determined to be a Control Room fire and plant shutdown at the remote shutdown panel.

JAF Emergency Plan Table 5-1 specifies the minimum staffing requirements for the JAF on-shift staff, defines the positions initially responsible for satisfying key ERO functions, and specifies positions that will augment the on-shift staff.

Emergency Response Organization Staffing

The JAF Emergency Plan defines four classes of emergency events: Notification of Unusual Event (UE), Alert, Site Area Emergency (SAE) and General Emergency (GE). Because on-shift personnel can normally address an emergency response to UEs without additional support, staff augmentation may not be activated for an UE declaration. The Operations SM maintains responsibility during UEs, unless the EOF has been activated. An Alert declaration results in the activation of all ERFs. This includes the EOF, TSC, OSC, and JIC. Overall responsibility for the event is assumed by the Emergency Director (ED) in the EOF when the EOF is declared operational. When the ERO is activated, notification is sent to those required to respond to their assigned ERF.

JAF Emergency Plan Section 5.0, "Organizational Control of Emergencies" describes how the normal plant operating organization transitions into an ERO to effectively deal with any incident at JAF. Section 5.1, "Normal Operation Organization," describes the normal operation organization on duty at the plant during all shifts.

The JAF Onsite Emergency Organization is described in Section 5.2, "Onsite Emergency Organization," and is depicted in Figure 5-2 of the JAF Emergency Plan. If initiating conditions exist that result in the declaration of an emergency, the SM assumes the role of ED and will be responsible for emergency direction and coordination. The normal operating organization will also assume their pre-assigned emergency response roles. This is considered to be a short-term

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response organization that will be augmented within approximately one hour after call-out by additional plant personnel.

If an Alert, SAE, or GE is declared, or if the minimum shift crew requires assistance during an UE, the onsite emergency organization will be augmented by additional plant personnel as described in Section 5.3 of the JAF Emergency Plan, "Augmented Onsite Emergency Organization." This section of the JAF Emergency Plan describes the augmented emergency organization that will staff and operate the EOF, TSC, OSC, and JIC as needed within approximately one hour of the request for activation.

Plans and procedures have been put into place to ensure the timely activation of emergency response facilities. JAF Emergency Plan Figure 5-1 identifies the interfaces among the various emergency organizations.

3. TECHNICAL EVALUATION

3.1 Accident Analysis

Section 14 of the JAF Final Safety Analysis Report (FSAR) describes the Abnormal Operational Transients and DBA scenarios that are applicable during plant operations. Other accidents evaluated in the FSAR include a Station Blackout (SBO) event and an Anticipated Transient without SCRAM (ATWS) event. Appendix R Fire events are addressed throughout the FSAR. Upon docketing of the certifications required by 10 CFR 50.82(a)(1), the 10 CFR Part 50 license for JAF will no longer authorize operation of the reactor or emplacement or retention of fuel into the reactor vessel, as specified in 10 CFR 50.82(a)(2). Therefore, most of the accident scenarios postulated in the FSAR will no longer be applicable once JAF is in the permanently defueled condition.

The postulated DBA that will remain applicable to JAF in its permanently shutdown and defueled condition is the FHA in the reactor building, where the SFP is located. FSAR Section 14 will be revised to eliminate the DBAs that will not be applicable in the permanently defueled condition. These DBAs are the CRDA, LOCA and MSLB accident.

The SBO, Appendix R fire, and ATWS accidents were not considered in the post-shutdown OSA. Once the certifications required by 10 CFR 50.82(a)(1) are docketed, JAF will no longer be licensed to operate and 10 CFR 50.63 (Station Blackout Rule) will no longer be applicable pursuant to 10 CFR 50.63(a)(1). Similarly, 10 CFR 50 Appendix R is applicable to licensed nuclear power generating stations. Once the certifications required by 10 CFR 50.82(a)(1) are docketed, JAF will no longer be licensed to generate power. Finally, because the Part 50 license will no longer authorize emplacement or retention of fuel in the reactor vessel, an ATWS will no longer be a credible event.

A comparison of the accident scenarios included in the current On-Shift Staffing Analysis and the post-shutdown OSA is provided in the following section.

3.2 Analysis of Proposed Changes

3.2.1 ERO Staffing

Prior to an emergency declaration, the normal plant operating organization is in place. The initial classification of an off-normal event occurs in the Control Room and classification and declaration is performed by the SM. Upon the classification and declaration of an emergency, the SM assumes the role of ED and retains that role until a designated ED can assume control. The onsite

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emergency organization is activated by personnel notification or when the station alarm is sounded and the emergency is announced over the public address system. Initially, the ERO consists of the normal operating shift personnel who function as the emergency team members. The normal operating staff is augmented, as needed, by plant personnel. Those personnel onsite respond when the station alarm is sounded and the announcement is made or when individuals are notified by another means. Personnel not onsite during off-hours operations will be notified via an ERO notification system. A designated on-shift plant employee shall perform notifications. The details of notifying all emergency operations personnel during normal and off-hours are contained in EPIPs.

In the permanently defueled condition, JAF will maintain ERO teams, with one complete team being on duty and on-call at any given time. When the SM directs the activation of the ERO call out system, all ERO members are notified to ensure adequate coverage of all ERO positions at all ERFs. ERO members not on-call are expected to respond unless they are unavailable.

JAF requires ERO personnel to act promptly in reporting to their assigned ERF even when not on duty. During duty periods, procedures further require that team members respond within the required response time for their ERF (unless a longer time frame is specified for their specific ERO position) and that they remain fit for duty throughout the duty assignment. Individuals are trained to respond to their ERF even if they are not on duty. Excess personnel that respond may be assigned support responsibilities or be designated as a relief shift. This conservative policy ensures timely activation because some off duty personnel may respond sooner than the on duty personnel.

The proposed revisions to the JAF Emergency Plan will not change the requirements described above. Management's continued expectation is that all duty and support ERO members report to their respective ERF as quickly as possible.

Currently, JAF maintains a minimum of two (2) persons per ERO position as specified in Section 5.3, "Augmented Onsite Emergency Organization," of the JAF Emergency Plan. In order to provide flexibility and optimize the staff available in the permanently defueled condition, Section 5.3 of the JAF Emergency Plan is being revised to remove the minimum number of persons designated for each emergency position and instead state that JAF has designated ERO members who staff positions required to meet minimum staffing to activate the TSC, OSC, and EOF. EPIPs identify ERO positions assigned to each facility and the minimum staffing required before each facility can be declared operational. All ERO personnel are expected to respond when notified by the emergency call-in notification system."

Each current ERO position is identified, and the associated duties are captured, in the ERO Task Analysis provided in Attachment 5. The duties of the ERO positions that are being eliminated were reviewed against NUREG-0654 and JAF procedures EN-EP-801, *Emergency Response Organization*, EAP-46, *Supplemental ERO Organizations* EN-EP-609, *Emergency Operations Facility Operations*, EN-EP-610, *Technical Support Center Operations*, EN-EP-611, *Operations Support Center Operations*, and EAP-16.2, *Joint Information Center Operation*. Each of the eliminated positions was analyzed to identify the key duties associated with the position and the duties were then evaluated against the planning standards in NUREG-0654.

The Table provided in Attachment 5 contains columns with headings "Implementing Actions" and "Task Assigned To?". These columns provide the details for disposition of each task. Procedures and training materials depicting the changes presented in Attachment 5 will be developed. Some of the duties are identified as being eliminated because they become unnecessary following permanent cessation of operations and permanent removal of fuel from the reactor vessel. Other

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duties are identified as eliminated because the duties are performed by other positions in the ERO and will continue to be performed by these positions in the post-shutdown ERO.

The proposed changes to the JAF Emergency Plan, including the minimal changes made to the ERO to develop the post-shutdown ERO, have been evaluated for impacts on the ERO and for the ability of offsite response organizations to implement their Federal Emergency Management Agency (FEMA)-approved Radiological Emergency Preparedness (REP) Plans. Potential impacts on the ability of State and local response organizations to effectively implement their FEMA-approved REPs do not exist because no tasks that require interfacing with State and local response organizations are proposed for elimination. JAF has appropriately addressed elimination of ERO positions that interface with offsite representatives by transferring the necessary tasks to remaining post-shutdown ERO positions.

To validate the results of the analysis, drills will be developed and conducted prior to implementation of the changes described within. The drills will be conducted to confirm the ability of the post-shutdown ERO to perform the necessary functions of each emergency response facility and will utilize the post-shutdown procedures that will be developed depicting the revised assignment of duties. The drills will be used to train and qualify post-shutdown ERO members, evaluate and validate the ability to accomplish the stated mission of each emergency response facility, and ensure that the planning standard functions are preserved with no degradation in time sensitive activities or in the ability to communicate with offsite response organizations. The drills will also validate that the post-shutdown ERO continues to address the risks to public health and safety and comply with the JAF Emergency Plan, site commitments, and applicable regulations.

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Table 1 - Emergency Response Organization Positions

Procedure(s)	Current Positions	Proposed Positions in the Post-Shutdown Emergency Plan ¹	Current JAF Emergency Plan Augmentation Requirements
Technical Support Center			
EAP-46/EN-EP-610	Emergency Plant Manager	Emergency Plant Manager	Yes
EAP-46/EN-EP-610	TSC Manager	--	Yes
EAP-46/EN-EP-610	Operations Coordinator	Operations Coordinator	No
EN-EP-610	TSC Reactor Engineer	--	No
EN-EP-610	Engineering Coordinator	Engineering Coordinator	Yes
EN-EP-610	TSC Engineers (Electrical, I&C, Mechanical)	--	No
EN-EP-610	IT Specialist	--	No
EAP-46/EN-EP-610	TSC Communicator	--	No
EN-EP-610	Radiological Coordinator	Radiological Coordinator	Yes
EN-EP-610	Security Coordinator	Security Coordinator	No
EN-EP-610	Maintenance Coordinator	Maintenance Coordinator	Yes
EN-EP-610	ENS Communicator	ENS Communicator	No
Operations Support Center			
EAP-46/EN-EP-611	OSC Manager	OSC Manager	Yes
EN-EP-611	OSC Operations Support	--	No
EN-EP-611	Work Control Coordinator	--	Yes
EN-EP-611	Mechanical and I&C/Electrical Coordinators	--	Yes
EAP-46/EN-EP-611	Rad/Chem Coordinator	--	Yes
EAP-46	Technicians (Electrical, I&C, Mechanical Maintenance, RP/HP, Chemistry)	Technicians (Electrical, I&C, Mechanical Maintenance, RP/HP, Chemistry)	Yes
EN-EP-611	OSC Log Keeper	--	No
Emergency Operations Facility			
EAP-46/EN-EP-609	Emergency Director	Emergency Director	Yes
EAP-46/EN-EP-609	EOF Manager	--	Yes
EAP-46/EN-EP-609	EOF Technical Advisor	EOF Technical Advisor	No
EN-EP-609	EOF Log Keeper	--	No
EAP-46/EN-EP-609	Radiological Assessment Coordinator	Radiological Assessment Coordinator	Yes
EAP-46/EN-EP-609	Offsite Communicator	Offsite Communicator	Yes
EAP-46/EN-EP-609	Lead Offsite Liaison	Lead Offsite Liaison	Yes
EAP-46/EN-EP-609	Offsite Team Coordinator	Offsite Team Coordinator	No
EAP-46/EN-EP-609	Administration and Logistics Coordinator	Administration and Logistics Coordinator	Yes
EN-EP-609	IT Specialist	--	No
EAP-46/EN-EP-609	Dose Assessor	Dose Assessor	Yes
EAP-46/EN-EP-609	Offsite Liaison	Offsite Liaison	No
EAP-46/EN-EP-609	EOF Communicator	--	No
EAP-46	Clerical/Reception Staffing Desk	--	No

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Procedure(s)	Current Positions	Proposed Positions in the Post-Shutdown Emergency Plan ¹	Current JAF Emergency Plan Augmentation Requirements
Joint Information Center			
EAP-16.2	Company Spokesperson (may also act as the JIC Manager)	Company Spokesperson	Yes ²
EAP-16.2	JIC Manager	JIC Manager	Yes ²
EAP-16.2	Technical Advisor	Technical Advisor	Yes ²
EAP-16.2	JIC Logistics Coordinator	--	Yes ²
EAP-16.2	Information Coordinator	--	Yes ²
EAP-16.2	JIC Media Liaison	JIC Media Liaison	Yes ²
EAP-16.2	JIC Log Keeper	--	Yes ²
EAP-16.2	JIC Technical Assistant	--	Yes ²
EAP-16.2	Press Release Writer	--	Yes ²
EAP-16.2	Media Monitoring	Media Monitoring	Yes ²
EAP-16.2	Inquiry Response Coordinator	--	Yes ²
EAP-16.2	Public Inquiry Responders	Public Inquiry Responders	Yes ²
EAP-16.2	Clerical Staff	--	No

¹ -- Indicates the position is proposed for elimination upon implementation of the Post-Shutdown Emergency Plan.

² As stated in EAP-16.2, the JIC Manager or Emergency Director may alter the minimum staffing requirements of the JIC

The intent of Table 1 is to compare the current ERO positions against the proposed post-shutdown ERO positions. Table 1 also identifies whether each position is currently required to meet the augmentation requirements of the JAF Emergency Plan according to the EIPs. As an example, the TSC Reactor Engineer is a position that is proposed for elimination in the post-shutdown ERO, because in a permanently shutdown and defueled condition, responsibilities associated with a reactor core no longer need to be maintained. Also, Table 1 identifies the TSC Manager as a current minimum staff position. The position is not included as a proposed position in the post-shutdown ERO upon implementation of the changes identified herein. The proposed elimination of the ERO minimum staff positions is described in the following sections.

3.2.1.1 Technical Support Center

The TSC has been designed to meet the intent of the guidance in NUREG-0696, "Functional Criteria for Emergency Response Facilities," and the clarification in NUREG-0737, Supplement 1, "Clarification of TMI Action Plan Requirements," as applicable. Following permanent cessation of operations, the TSC will continue to be located in the old Administration Building on the second floor within a two minute walk of the Control Room. The proposed changes to the JAF Emergency Plan do not involve any physical modifications to, or layout/configuration changes in, the TSC.

The current JAF Emergency Plan and ERO staffing is intended to address the risks to public health and safety inherent in an operating reactor. The risk in the permanently defueled condition is significantly reduced because many of the potential initiating conditions that would lead to an emergency declaration will no longer be possible.

The spectrum of credible accidents and operational events, and the quantity and complexity of activities required for the safe storage of spent nuclear fuel is reduced as compared to an operating plant. The set of plant equipment required in the permanently defueled condition is also greatly reduced, which reduces the assessment and mitigation activities the TSC must perform.

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Therefore, the TSC Manager, TSC Reactor Engineer, TSC Engineers, IT Specialist, and TSC Communicator positions can be eliminated without placing an undue burden on the remaining ERO positions in the TSC and without increasing the risk to public health and safety. Attachment 5 contains an analysis of all ERO positions being eliminated and evaluates the transfer of tasks to remaining ERO positions following permanent cessation of operations. The proposed ERO staffing reductions continue to address the risks to public health and safety, comply with the JAF Emergency Plan, site commitments, and applicable regulations.

As previously described, to validate the results of the analysis, drills will be developed and conducted prior to implementation of the changes described within. The drills will be conducted to confirm the ability of the post-shutdown ERO to perform the necessary functions of each emergency response facility and will utilize the post-shutdown procedures that will be developed depicting the revised assignment of duties.

The ERF procedures describing activation and operation of each facility will continue to assign responsibilities to ERO responders for the purposes of removing the responsibilities of coordinating with offsite responders and delivering information to the public from the Control Room staff, thereby allowing operations personnel to perform their assigned functions. ERO duties have been reviewed and duties for those positions proposed for elimination will be transferred appropriately.

The proposed staffing changes eliminate one ERO position in the TSC described in JAF EIPs as a minimum staff position, the TSC Manager.

TSC Manager

The TSC Manager position is described in Section 5.3.3 of the JAF Emergency Plan and further detailed in Attachment 9.2 of EN-EP-601, *Technical Support Center (TSC) Operations*. According to Section 5.3.3 of the JAF Emergency Plan, the TSC Manager is responsible for control of the TSC. The TSC Manager is responsible for ensuring the TSC is being activated in accordance with applicable procedures; ensuring the TSC is being activated in accordance with applicable procedures; ensuring notification of the ERO has been made; assisting the public information personnel in transmitting accurate information; and directing the collection, trending, and posting of relevant data.

The TSC will continue to be activated at an Alert or higher declaration. Functional responsibilities of the TSC Manager position that remain applicable in a permanently defueled condition will be reassigned to remaining positions in the TSC. Attachment 5 contains an analysis of all ERO positions being eliminated and evaluates the transfer of tasks to remaining ERO positions following permanent cessation of operations. The proposed ERO staffing reductions continue to address the risks to public health and safety, comply with the JAF Emergency Plan, site commitments, and applicable regulations.

In addition to the TSC Manager, the following TSC positions are proposed for elimination following permanent cessation of operations:

- TSC Reactor Engineer
- TSC Engineers
- IT Specialist
- TSC Communicator

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TSC Reactor Engineer

While not a minimum staff position in the TSC, the primary duties of the TSC Reactor Engineer include: monitoring plant conditions for any indication of core damage, assisting in clarifying core parameter information to the Engineering Team, and assisting in the implementation of Severe Accident Management Guidelines. In a permanently shutdown and defueled condition, responsibilities associated with a reactor core no longer need to be maintained. EIPs indicate that the TSC Reactor Engineer can provide information to dose assessment personnel regarding SFP accidents. However, this task can also be performed by the EOF Technical Advisor and Operations personnel. Any other duties described in implementing procedures that are unrelated to core assessment, such as assisting the Emergency Plant Manager and Engineering Coordinator, assisting with implementation of Severe Accident Management Guidelines, providing recommendations to plant operators, and assisting in developing emergency procedures are either no longer necessary in a permanently defueled condition or will be performed by other members of the post-shutdown ERO. Elimination of the TSC Reactor Engineer position will have no effect on emergency response in a permanently defueled condition because the position is not required to assess the condition of fuel in the SFP during an emergency. The TSC Reactor Engineer position can be eliminated without increasing the risk to public health and safety because the major task of evaluating core/thermal hydraulics is not necessary or possible in a permanently shutdown and defueled condition.

The elimination of the TSC Engineers, IT Specialist and TSC communicator positions does not impact the capabilities of the on-shift staffing or augmented response. The TSC will continue to be activated at an Alert or higher declaration. Functional responsibilities of the positions eliminated as a result of the changes will be reassigned to remaining positions. The proposed ERO staffing reductions continue to address the risks to public health and safety, comply with the JAF Emergency Plan, site commitments, and applicable regulations.

3.2.1.2 Operations Support Center

The OSC has been designed to meet the intent of the guidance in NUREG-0696, "Functional Criteria for Emergency Response Facilities," and the clarification in NUREG-0737, Supplement 1, "Clarification of TMI Action Plan Requirements," as applicable. Following permanent cessation of operations, the OSC will continue to be located on the 272' elevation of the old Administration Building. The proposed changes to the JAF Emergency Plan do not involve any physical modifications to, or layout/configuration changes in, the OSC.

The proposed staffing changes eliminate three ERO positions in the OSC described in JAF EIPs as minimum staff positions: Work Control Coordinator, Mechanical and I&C/Electrical Coordinators, and the RAD/Chem Coordinator. In addition, the OSC Operations Support and OSC Log Keeper positions are proposed for elimination following permanent cessation of operations. Attachment 5 contains an analysis of all ERO positions being eliminated and evaluates the transfer of tasks to remaining ERO positions following permanent cessation of operations. The proposed ERO staffing reductions continue to address the risks to public health and safety, comply with the JAF Emergency Plan, site commitments, and applicable regulations.

As previously described, to validate the results of the analysis, drills will be developed and conducted prior to implementation of the changes described within. The drills will be conducted to confirm the ability of the post-shutdown ERO to perform the necessary functions of each emergency response facility and will utilize the post-shutdown procedures that will be developed depicting the revised assignment of duties.

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In the permanently shutdown and defueled condition, the primary functions of the OSC will remain dispatching of, and accounting for, Repair and Corrective Action Teams and dispatching of Site Boundary and Offsite Monitoring Teams. The OSC Manager is responsible for ensuring adequate staffing of the OSC to support the emergency; working with the Emergency Plant Manager to set priorities for the OSC; and directing the activities of the OSC to support the emergency response. If at any time the OSC Manager determines additional manpower is necessary to accomplish the mission of the OSC, the OSC Manager will contact the Administration and Logistics Coordinator in the EOF to arrange for augmentation by additional personnel to support the emergency response functions of the OSC.

The spectrum of credible accidents and operational events, and the quantity and complexity of activities required for the safe storage of spent nuclear fuel is reduced as compared to an operating plant. The primary events of concern in the immediate post-shutdown and defueled condition will be a fuel handling accident and a loss of SFP cooling and/or water inventory. During fuel handling activities there will be extra personnel on site that will, were a fuel handling accident to occur, be able to respond to the event. Events involving a loss of SFP cooling and/or water inventory can be addressed by implementation of SFP inventory makeup strategies required under 10 CFR 50.54(hh)(2). These strategies will also continue to be required as a license condition. OSC staff is not relied upon to implement SFP inventory makeup.

Restoration of equipment supporting SFP cooling and inventory will be the primary focus of emergency mitigation actions for the TSC and OSC in a permanently shutdown and defueled condition. Although ERO activation/response time requirements will be unchanged, the elimination of credible accidents involving an operating reactor provides additional time to plan and execute assessment and mitigation actions. The proposed changes do not impact the capability to assess and monitor actual or potential offsite consequences of a radiological emergency or provide information to offsite authorities in a timely manner. Therefore, the OSC Operations Support, Work Control Coordinator, Mechanical and I&C/Electrical Coordinators, Rad/Chem Coordinator and OSC Log Keeper positions can be eliminated without placing an undue burden on the remaining ERO positions in the OSC and without increasing the risk to public health and safety.

3.2.1.3 Emergency Operations Facility

As described in Section 7.1.5 of the JAF Emergency Plan, the EOF functions to maintain overall management of Entergy's emergency response and recovery resources; evaluate, coordinate and communicate emergency response activities with Federal, State, and County emergency response organizations; evaluate offsite accident conditions; and make recommendations to offsite agencies regarding protective actions. New York and Oswego County representatives are provided space and communications at the EOF and staff this facility at an Alert or higher classification.

The EOF has been designed to meet the intent of the guidance in NUREG-0696, "Functional Criteria for Emergency Response Facilities," and the clarification in NUREG-0737, Supplement 1, "Clarification of TMI Action Plan Requirements," as applicable. Following permanent cessation of operations, the EOF will continue to be located next to the Oswego County Airport on Co. Rt. 176 in the Town of Volney, approximately 12 miles from the plant site. The proposed changes to the JAF Emergency Plan do not involve any physical modifications to, or layout/configuration changes in, the EOF.

The EOF maintains extensive communications capability with all emergency response facilities and direct links are established between the EOF, New York and Oswego County Emergency Operations Centers (EOCs), and the JIC to provide up-to-date emergency status reports. The proposed changes to the JAF Emergency Plan do not involve changes to the ability of offsite

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authorities to report to the EOF or the JIC, and as a result, do not impact the ability of the offsite authorities to mobilize to, or operate from, the EOF and JIC.

When activated, the Emergency Director reports to the EOF and directs the activities of the ERO throughout the emergency and until the recovery activities have been terminated. The Emergency Director, or a designated alternate, is notified of all emergency conditions occurring at the plant and issues periodic status reports of the event to the responding offsite representatives. As described in Section 5.3.4 of the JAF Emergency Plan, the Lead Offsite Liaison will provide and interpret plant information to the offsite representatives in the EOF. Additionally, as described in Section 5.3.12 of the JAF Emergency Plan, technical support staff are dispatched to the State and County EOCs when requested and appropriate, or generally, during a SAE or GE to act as a liaison with the plant technical staff so the magnitude of the emergency can be more clearly conveyed to the EOC staffs. The proposed changes to the JAF Emergency Plan do not reduce the ability of JAF to provide the necessary information regarding the status and progression of an event or in the frequency at which event information updates are provided. Nor do the changes impact the ability to dispatch additional technical support to the EOCs. As a result, the proposed changes do not impact the ability of JAF to communicate with the offsite response organizations.

Centralized coordination of the offsite radiological assessment effort with all organizations interested in, and/or performing, assessments is necessary to ensure that the data and its interpretation are reviewed by JAF and offsite response organizations with monitoring and assessment responsibilities. The number and type of organizations performing this effort vary with time and following emergency declarations and offsite notification. Initially, plant emergency response personnel are the only organization performing this function and they are directed from, and their results evaluated, at the EOF. State and County authorities join the EOF monitoring and assessment activities. Federal response agencies would augment plant and State and local radiological assessment efforts upon their arrival. Plant, State, and local monitoring efforts are coordinated at the EOF. The proposed changes to the JAF Emergency Plan do not involve changes to offsite radiological assessment capabilities or coordination of these efforts with offsite response organizations, and as a result, do not impact the ability of offsite agencies to effectively implement their emergency plans.

JAF will continue to maintain the capability to display plant and meteorological data in the EOF, maintain offsite monitoring equipment at the EOF and maintain the current dose assessment capabilities at the EOF. Additionally, JAF will maintain a goal of approximately sixty (60) minutes after declaration of an emergency to activate the EOF.

The proposed staffing changes eliminate one ERO position in the EOF described in JAF EIPs as a minimum staff position, the EOF Manager.

EOF Manager

The EOF Manager position is described in Section 5.3.5 of the JAF Emergency Plan and further detailed in EN-EP-609, *Emergency Operations Facility (EOF) Operations*. According to Section 2.6 of Attachment 9.2 of EN-EP-609, the EOF Manager is responsible for briefing offsite representatives at the EOF if the Lead Offsite Liaison is not available upon the offsite representatives' arrival at the facility. The Lead Offsite Liaison position is being retained following permanent cessation of operations and, according to Section 2.2 of Attachment 9.8 of EN-EP-609 and Attachment 1F of EAP-46, is procedurally responsible for providing initial briefings to State and local representatives on emergency events, current plant conditions, emergency response activities, offsite radiological release status, dose assessment and protective action recommendations (PARs) upon their arrival at the EOF. The Lead Offsite Liaison is also

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responsible for ensuring that State and local representatives are updated periodically, including providing information on significant changes in plant parameters, emergency classification changes, PARs and evaluations of radiological conditions.

The EOF Manager and Lead Offsite Liaison both currently have 60 minute response times to the EOF and the Lead Offsite Liaison will continue to have a 60 minute response time following the approval of the proposed JAF Emergency Plan changes. Therefore, there will be no impact in the timeliness of the initial briefing to offsite representatives following their arrival at the EOF.

In addition to the EOF Manager, the following EOF positions are proposed for elimination following permanent cessation of operations:

- EOF Log Keeper
- IT Specialist
- EOF Communicator
- Clerical/Reception Staffing Desk

The proposed EOF staffing changes described above do not impact the capabilities of the on-shift staffing or augmented response. The positions can be eliminated without placing an undue burden on the remaining ERO positions in the EOF and without increasing the risk to public health and safety. Attachment 5 contains an analysis of all ERO positions being eliminated and evaluates the transfer of tasks to remaining ERO positions following permanent cessation of operations. The EOF will continue to be activated at an Alert or higher declaration. Functional responsibilities of the positions eliminated as a result of the changes will be reassigned to remaining positions. The proposed ERO staffing reductions continue to address the risks to public health and safety, comply with the JAF Emergency Plan, site commitments, and applicable regulations.

As previously described, to validate the results of the analysis, drills will be developed and conducted prior to implementation of the changes described within. The drills will be conducted to confirm the ability of the post-shutdown ERO to perform the necessary functions of each emergency response facility and will utilize the post-shutdown procedures that will be developed depicting the revised assignment of duties.

3.2.1.4 Joint Information Center

The JAF JIC is located adjacent to the EOF. As described in Section 7.1.6 of the JAF Emergency Plan, the JIC serves as the central location for the release of all information from Entergy, as well as from State and local agencies to the news media. The JIC is equipped to accommodate the news media for large briefings and conferences and contains extensive communications systems. Media monitoring and rumor control is also accomplished at the JIC, allowing Entergy and State and local representatives to address incorrect information or rumors. Responses to media telephone inquiries are also addressed at the JIC.

The JIC meets the intent of the guidance in Planning Standard G of NUREG-0654, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants.” Following permanent cessation of operations, the JIC will continue to be located next to the Oswego County Airport on Co. Rt. 176 in the Town of Volney, approximately 12 miles from the plant site. The proposed changes to the JAF Emergency Plan do not involve any physical modifications to, or layout/configuration changes in, the JIC.

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The proposed staffing changes eliminate the following ERO positions in the JIC described in JAF EPIPs as minimum staff positions:

- JIC Logistics Coordinator
- Information Coordinator
- JIC Log Keeper
- JIC Technical Assistant
- Press Release Writer
- Inquiry Response Coordinator

The JIC positions proposed for elimination are not identified in the JAF Emergency Plan. Each of the positions are described in EAP-16.2, *Joint Information Center Operation*, as required positions. The JIC Manager is identified as having the responsibility to ensure that all required positions are staffed, prior to declaring the JIC operational. However, EAP-16.2 also states that the JIC Manager or Emergency Director may alter the JIC staffing requirements. Of the JIC positions listed above, the only position that interfaces with offsite response organizations is the JIC Logistics Coordinator. The JIC Logistics Coordinator is responsible to the JIC Manager for directing all activities and functions at the JIC not directly involving information flow from the plant to the news media. This responsibility includes supervising administrative functions and requesting Oswego County personnel in the JIC to provide JIC security support. In the permanently shutdown and defueled condition, Security personnel will continue to be assigned to the JIC when requested and are responsible for ensuring completion of JIC security needs.

In the permanently shutdown and defueled condition, media briefings will continue to be conducted regularly during an emergency to provide accurate and timely information to the public. The proposed JIC staffing changes described above do not impact the capabilities of the on-shift staffing or augmented response. The positions can be eliminated without placing an undue burden on the remaining ERO positions in the JIC and without increasing the risk to public health and safety. Attachment 5 contains an analysis of all ERO positions being eliminated and evaluates the transfer of tasks to remaining ERO positions following permanent cessation of operations. The JIC will continue to be activated at an Alert or higher declaration. Functional responsibilities of the positions eliminated as a result of the changes will be reassigned to remaining positions. The proposed ERO staffing reductions continue to address the risks to public health and safety, comply with the JAF Emergency Plan, site commitments, and applicable regulations.

As previously described, to validate the results of the analysis, drills will be developed and conducted prior to implementation of the changes described within. The drills will be conducted to confirm the ability of the post-shutdown ERO to perform the necessary functions of each emergency response facility and will utilize the post-shutdown procedures that will be developed depicting the revised assignment of duties.

3.2.1.5 Impact on Off-Site Response Organizations

Because of the geographic location of JAF, the planning and responsibilities at the State and local level involve coordination with the State of New York and Oswego County. Section 7.0 of the JAF Emergency Plan describes the extensive communications network maintained between JAF, the State of New York, and Oswego County as a means of promptly notifying and maintaining communications with appropriate authorities. As described in Section 6.1.2 of the JAF Emergency Plan, the coordination effort with offsite authorities is initiated by notifying New York and Oswego County and providing them with information using a pre-arranged notification form that provides key information regarding an emergency. The proposed changes to the JAF Emergency Plan do not involve changes to this communications network, and as a result, do not impact the ability of JAF to promptly notify and initiate coordination with the offsite authorities.

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Formal offsite radiological emergency preparedness (REP) plans, approved by the U.S. Federal Emergency Management Agency (FEMA) in accordance with 44 CFR 350, are required to be maintained in effect until such time as the NRC approves an exemption to formal offsite emergency preparedness requirements. Because the changes proposed by ENO, specifically in regards to ERO staffing of the EOF and JIC, have the potential to adversely impact the effective implementation of State and local REP plans, the proposed changes to the JAF Emergency Plan were evaluated for impacts on the ability of State and local response organizations to effectively implement their FEMA-approved REP Plans. This evaluation included a review of the New York State Radiological Emergency Preparedness Plan and the Oswego County Radiological Emergency Preparedness Plan.

The review of the State and local REPs did not identify any specific references to JAF ERO positions proposed for elimination. However, the proposed changes to the JAF Emergency Plan involve the elimination of two JAF ERO positions that have tasks that involve interfacing with State and local representatives. These two positions are the EOF Manager and the JIC Logistics Coordinator. Attachment 5 contains an analysis of all ERO positions being eliminated and evaluates the transfer of tasks to remaining ERO positions following permanent cessation of operations. The discussion provided previously in this section addresses the potential impacts the proposed changes to the JAF Emergency Plan have on the EOF and the JIC and the potential impacts on the ability of the offsite response organizations to implement their FEMA-approved REP Plans.

Decommissioning-related emergency plan submittals for JAF have been discussed with offsite response organizations since Entergy provided notification that it would permanently cease power operations at the end of the current operating cycle (Reference 1). These discussions have addressed future changes to onsite and offsite emergency preparedness throughout the decommissioning process.

3.2.2 On-Shift Staffing

To support reduced staffing following permanent cessation of operations and permanent removal of fuel from the reactor vessel, the proposed post-shutdown on-shift staffing was evaluated in conjunction with the postulated accidents previously submitted to the NRC using NEI 10-05 methodology (Attachment 4). The post-shutdown OSA assumes that the FHA is the only DBA that can occur. The post-shutdown OSA concluded that in a permanently defueled condition one on-shift SM, one CRS/CFH, three NPOs/NCOs, and one Radiation Protection Specialist can perform all required JAF Emergency Plan actions in a timely manner and there are no collateral duties that would prevent the timely performance of emergency plan functions. The Fire Brigade complement will consist of the three NPOs listed above and two other fire brigade qualified staff.

For the current analysis, the following accident scenarios were included:

Design Basis Threat

The event evaluated for this analysis assumes a land based threat that is neutralized immediately when inside the protected area fence, no significant damage to equipment or systems that require corrective actions before the ERO is staffed, no radiological release, and no fire that requires firefighting response before the ERO is staffed.

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Control Rod Drop Accident

The control rod drop event results in fuel damage and radioactivity that is retained within the turbine, condensers, and the offgas system. Release to the environment is due to leakage from the various contaminated systems into the turbine building.

Loss of Coolant Accident

The event results in a release of radioactive material from the reactor coolant system to the primary containment from a complete circumferential break of one of the recirculation loop lines.

Fuel Handling Accident

The FHA is assumed to occur when the primary containment is open and the reactor vessel head has been removed. The DBA for this case involves the dropping of a fuel bundle on top of the core.

Main Steam Line Break Accident

This event results in radioactive material releases outside secondary containment and was due to a complete severance of a 16-inch line leading to the turbine bypass steam chest.

Aircraft Potential Threat (50.54(hh))

Notification is received from the NRC that a potential aircraft threat exists.

Fire requiring evacuation of the Control Room and plant shutdown from remote location, (Appendix R Fire)

A fire occurs in the main control room requiring the evacuation of the control room and procedures implemented to remotely shutdown the reactor.

Station Blackout

A loss of all offsite AC power occurs and the failure of the emergency diesel generators to start. The SM determines power cannot be restored and declares a Site Area Emergency due to the loss of offsite power.

General Emergency with radioactive release and Protective Action Recommendation

This event is based on the same initial conditions of the LOCA but assumes system failures meet the GE conditions of a loss of two fission product boundaries with the potential loss of the third.

For the post-shutdown OSA, the following accident scenarios were included:

Design Basis Threat

The event evaluated for this analysis assumes a land based threat that is neutralized immediately when inside the protected area fence, no significant damage to equipment or

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systems that require corrective actions before the ERO is staffed, no radiological release, and no fire that requires firefighting response before the ERO is staffed.

Fuel Handling Accident

The postulated design basis accident that will remain applicable to JAF in its permanently shutdown and defueled condition is the FHA in the reactor building where the SFP is located.

Aircraft Potential Threat (50.54(hh))

Notification is received from the NRC that a potential aircraft threat exists.

Control Room Fire Requiring Evacuation and Maintain SFP Cooling

A fire occurs requiring the evacuation of the Control Room and actions implemented to control service water pumps from a remote location.

General Emergency (GE) with radioactive release and PAR (assumed for analysis purposes)

This event is based on the same initial conditions as the FHA, but assumes a dose that exceeds the Environmental Protection Agency's (EPA) Protective Action Guides (PAGs) beyond the site boundary, and thus necessitates promulgation of a PAR.

The post-shutdown OSA indicates that the proposed on-shift personnel can satisfactorily implement all emergency plan functions as required by regulation without augmented ERO personnel for at least 90 minutes following an emergency declaration. The post-shutdown OSA confirmed that no chemistry job tasks were noted as being required within the first 90 minutes of any of the analyzed events. The 90 minute capability exceeds the JAF Emergency Plan requirements that augmented staff respond in approximately 60 minutes. This analysis was conducted assuming a 90 minute response of the augmented ERO to allow the use of this analysis for a possible future extension in ERO augmentation times. ENO is not requesting an extension to the current approximately 60 minute augmentation capability.

Currently, the Chemistry Technician is an on-shift position per JAF Emergency Plan Table 5-1 so that a technician is always available to immediately collect and analyze a liquid sample if the applicable radiation monitor is not available during a release, or as directed by the SM. When the on-shift Chemistry Technician position is eliminated, the on-shift Radiation Protection Specialist will be able to perform sampling and analysis, so as to not delay information potentially needed by the SM to determine if an emergency declaration is required. For gaseous releases, the only credible scenario for releasing gas would be to mechanically damage spent fuel during handling or by impact of a heavy object. Activities that could cause mechanical damage will require that a Chemistry Technician be on-site or the radiation monitor listed in gaseous effluent EALs is in service, thereby alleviating any reliance on a potentially delayed sample analysis to determine EAL applicability. A new regulatory commitment to revise applicable fuel handling procedures to incorporate this prerequisite is included in Attachment 6.

Radiation Protection Technicians currently do not receive specific training modules which prepare them to perform sampling and analysis at various locations throughout the plant. Incumbent Radiation Protection Technicians have not been trained on how to analyze these samples using a

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Multi-Channel Analyzer (MCA). These analyses are performed using an approved station procedure and a computerized MCA menu which guides the technician to select the correct counting geometry for various sample types. A gap analysis will be performed to determine any differences between current Radiation Protection Technician training requirements and any new specific knowledge requirements associated with emergency plan sampling and analysis. Such specific knowledge requirements would include how to obtain specific liquid samples.

In the permanently shutdown and defueled condition the title of Radiation Protection Technician will be changed to Radiation Protection Specialist.

Once the specific training requirements for the Radiation Protection Specialist position have been identified using a systematic approach to training, as required by 10 CFR 50.120, a formal gap analysis will be completed for all personnel identified to fill the Radiation Protection Specialist position. Individualized training plans will be developed and completed to address specific knowledge and skills areas for each of the selected Radiation Protection Specialist candidates. The initial training for all incumbent Radiation Protection Specialists will include all training requirements to perform liquid sampling and analysis to support an emergency declaration.

The initial training requirements for any new Radiation Protection Specialist will include all training modules to ensure they are equipped with the required skills and knowledge to perform the required liquid sampling and analysis. These training modules will be specifically identified in the training program description for the Radiation Protection Specialist position. This document will be developed in accordance with the requirements of 10 CFR 50.120.

Based on the above, the proposed change in on-shift operations staffing and elimination of the on-shift Chemistry Technician are appropriate given the permanent cessation of operations and removal of fuel from the reactor vessel.

Because of the reduced number of possible events requiring mitigating actions in the permanently defueled condition and the limited number of actions to be performed by the Control Room positions in a permanently defueled condition, no Senior Nuclear Operators or STA job tasks were noted as being required for any of the events analyzed in the post-shutdown OSA. Therefore, the Senior Nuclear Operators and STA positions can be eliminated without reducing the effectiveness of the post-shutdown JAF Emergency Plan.

The proposed on-shift staffing changes do not impact the capabilities of the on-shift staff to respond to an emergency and continues to comply with the JAF Emergency Plan, site commitments, and applicable regulations.

Additional analysis for each of the staffing changes associated with JAF Emergency Plan Table 5-1 is provided in the following section.

3.2.3 Major Functional Area: Operations (Assessment of Operational Aspects)

Major Tasks: Direct and perform actions to mitigate plant emergency conditions.

Current Staffing Requirement

During normal operations, the minimum staff on duty at the plant during all shifts to satisfy this Major Functional Area consists of:

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- 1 Shift Manager
- 1 Control Room Supervisor
- 1 Field Support Supervisor/Shift Technical Advisor
- 3 Senior Nuclear Operators
- 6 Nuclear Plant Operators
- 1 Radiation Protection Technician
- 1 Chemistry Technician

Proposed Change

The proposed changes to the JAF Emergency Plan will eliminate the following on-shift positions:

- 1 Field Support Supervisor/Shift Technical Advisor
- 3 Senior Nuclear Operators
- 3 Nuclear Plant Operator
- 1 Chemistry Technician

Operations on-shift personnel will consist of one Shift Manager (SM), one CRS, and three NPOs. Title changes for the CRS and NPOs to CFH and NCOs, respectively, are dependent upon NRC approval of proposed changes to the JAF Technical Specifications (Reference 2).

Analysis

The regulatory standard for minimum staffing requirements for NRC licensees is documented in NUREG-0654. The total minimum on-shift staffing expressed in NUREG-0654, Table B-1, is ten personnel. Plant Operations shift staffing, as implemented previously, was based on an operating philosophy that provided defense in depth. The post-shutdown OSA concluded that in a permanently defueled condition, the on-shift SM, CRS, and three NPOs/NCOs can perform all required JAF Emergency Plan actions in a timely manner and there are no collateral duties that would prevent the timely performance of emergency plan functions. Therefore, this deviation from the guidance presented in NUREG-0654, Table B-1 is acceptable.

3.2.4 Major Functional Area: Notification/Communication

Major Tasks: Notify JAFNPP, Nine Mile Point Nuclear Power Plant (NMPNPP), State, local, and Federal personnel and maintain communication. Staff Notifications and Security Contacts.

Current Staffing Requirement

NPO performs the function of on-shift notification/communication.

Proposed Change

Replace the NPO with the CRS/CFH.

Analysis

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This function is currently performed by an on-shift staff position performing emergency plan Communicator requirements. The Communicator is currently an NPO. This function is currently augmented by TSC and EOF designated communications positions when those facilities assume communications responsibilities.

Initial notification to offsite authorities are required to occur within 15 minutes of declaration of an emergency and initial NRC notification is required to occur immediately after notification of the appropriate state or local agencies and not later than 60 minutes after the time of the emergency declaration. Subsequent notifications are made should the event escalate and for informational updates. The resource commitment to support the communication function is not full time so there is time to support performance of collateral duties during the first 60 minutes until staff augmentation can occur. The on-shift and offsite communicators have advanced communications capabilities available such as the Radiological Emergency Communications System (RECS). Communications with the NRC take place over dedicated telephone lines provided for and maintained by the NRC (Emergency Notification System (ENS)). For purposes of the post-shutdown OSA, NRC notifications were treated as a continuous action in accordance with 10 CFR 50.72(c)(3), meaning that once the initial NRC communications are established, it was assumed that the NRC will request an open line to be continuously maintained with the NRC Operations Center. The use of dedicated phone circuits and headsets enables these notifications to be performed by the same on-shift communicator who performs the State and local notifications.

The SM initially approves the content of the communication with State and Federal agencies until relieved of this function by the EOF. The JAF Emergency Plan goal is to activate the EOF within approximately 60 minutes. The EOF assumes the communication responsibility concurrent with activation. Therefore, the current communication protocol may remain within the Control Room for the first 60 minutes, regardless of the presence of any prior ERO augmentation.

In the post-shutdown condition, the task of notifying and communicating with offsite authorities will be transferred to the CRS/CFH. This change is acceptable because the post-shutdown OSA concluded that in a permanently defueled condition, the CRS/CFH can perform this required JAF Emergency Plan action in a timely manner and there are no collateral duties that would prevent the timely performance of this emergency plan function.

3.2.5 Major Functional Area: Radiation Protections Functions/Radiological Surveys (Support of Operational Accident Assessment (In-Plant) Protective Actions)

Major Tasks: Onsite (out-of-plant) survey; In-plant surveys; Out-of-Plant and offsite surveys; Chemistry/Radiochemistry offsite surveys; Radiation Protection Access Control; Health Physics (HP) Coverage for Repair, Corrective Actions, Search and Rescue, First Aid and Firefighting; Personnel Monitoring; Dosimetry

Current Staffing Requirement

On-shift Radiation Protection Technician and Chemistry Technician perform the in-plant protective actions.

Augment the on-shift Radiation Protection Technician capability by eight Radiation Protection Technicians within approximately 60 minutes.

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Proposed Change

Eliminate the on-shift Chemistry Technician position.

Eliminate two augmenting Radiation Protection Technicians.

Title change from Radiation Protection Technician to Radiation Protection Specialist.

Analysis

The function of these additional resources is to provide radiation protection oversight of the on-shift complement of personnel and augmented personnel who are expected to respond to emergency events for damage repair, corrective actions, search and rescue, first aid, firefighting and personnel monitoring. They can also be expected to provide for access control and the issuance of dosimetry. Analysis of the proposed change for each of these tasks is discussed below. The fire brigade will continue to perform the tasks of search and rescue, first aid and firefighting in the permanently defueled condition.

In the permanently shutdown and defueled condition the title of Radiation Protection Technician will be changed to Radiation Protection Specialist.

3.2.5.1 *Major Tasks: Radiation Protection Access Control*

In the original JAF Emergency Plan, radiological access control was a labor intensive task. Dedicated Radiation Protection Technicians were required to check dose margins, training qualifications, and to ensure workers had read and understood their radiation work permit. Worker access control is now partially automated because many of the Radiation Protection work processes have been computerized. Radiation Work Permit (RWP) access control and electronic dosimeter computer systems work together to provide a fully integrated system allowing workers to sign-in on their radiation work permit and to self-issue electronic dosimeters. During a declared emergency however, radiation work permits and dose setpoints will change depending on the emergency situation and plant conditions. Both systems have been used by plant workers for several years. Worker dose margins and training qualifications are also automatically verified when the radiation work permit access control system is used. If a worker's dose margin is inadequate or training is expired, the worker's access would be precluded and the access control system would not allow issuance of an electronic dosimeter. In an emergency situation, approval to exceed dose margins is required. During the log-in process, workers acknowledge their electronic dosimeter alarm setpoints and that they have read and understand their radiation work permit. The electronic dosimeter provides the worker with a continuous status of dose received and work area dose rates, and will alarm at preset dose and dose rate alarms. Worker use of electronic dosimeters facilitates more efficient use of Radiation Protection Technicians to provide Radiation Protection coverage while preserving the ALARA concept. Access control is maintained because the worker must obtain an electronic dosimeter and enter a radiation work permit number into the access control computer system prior to being allowed access into the Radiologically Controlled Area (RCA). No setup is required for the radiation work permit access control computers, which allows Radiation Protection Technicians to be used for more critical tasks during emergency response. Personnel are required to self-monitor for radioactive contamination whenever they exit the RCA. No Radiation Protection involvement is necessary for this contamination monitoring activity

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because workers are trained to perform this task without supervision or oversight. However, contaminated personnel exiting the RCA will require Radiation Protection oversight.

3.2.5.2 *Major Task: HP Coverage for Repair, Corrective Actions, Search and Rescue, First Aid and Firefighting; Personnel Monitoring*

HP coverage will only be performed if the radiological status of a room is unknown and there is a definitive need for emergency workers to enter the room to perform a task. The decision to provide HP coverage may be based on plant radiological conditions as indicated by installed area radiation monitors (ARMs).

During the initial stages of an accident, not all areas of the plant would be affected by releases of radioactive materials. Therefore, HP coverage would not be required for all areas. Because entry is expected to be limited to those areas where maintenance necessary to maintain SFP cooling is required and the areas potentially affected by an accident involving the SFP are limited, there is a significant decrease in areas potentially requiring HP coverage in a permanently shutdown and defueled condition. If HP coverage is deemed necessary, multiple emergency teams can be covered by the on-shift Radiation Protection Specialist. If HP coverage is not provided (for entry into areas with low radiological risk or known radiological status), worker protection is ensured because emergency workers are required to wear electronic dosimeters (which will alarm at preset dose and dose rate setpoints) and because of the installed ARMs (which alarm locally and remotely at preset dose rates) located throughout the plant.

3.2.5.3 *Major Task: Dosimetry*

In the original JAF Emergency Plan, dosimetry issuance was a manual process requiring Radiation Protection Technicians to zero and issue dosimeters, verify worker training, and verify and track radiation dose margins. As addressed in the Access Control/Personnel Monitoring Section above, access control computers are now used for issue of electronic dosimetry with alarming capability. Battery-powered electronic dosimeters are available as a backup. Worker self-issuance of electronic dosimeters has eliminated the need for Radiation Protection Technicians to physically issue dosimetry, with the exception of any tasks that require specialized dosimetry and/or special body placement of the dosimetry. These types of tasks are not expected in the initial stages of an event, but during the recovery phase. Prior to self-issuance of dosimetry, workers are assigned a RWP, setpoints are adjusted, and briefings are conducted by Radiation Protection.

The post-shutdown OSA determined there are no time critical Radiation Protection or chemistry tasks, and that task performance is directed and prioritized by the SM for the 90-minute time frame used in the analysis. There are no overlapping Radiation Protection or chemistry tasks. Radiation Protection tasks were able to be performed without augmented personnel in the 90-minute time frame used in the analysis.

3.2.6 Major Functional Area: Plant Systems Engineering

3.2.6.1 *Major Task: Technical Support (Shift Technical Advisor)*

Current Staffing Requirement

The on-shift STA performs the major task of Shift Technical Advisor.

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Proposed Change

Eliminate the on-shift STA position.

Analysis

The STA performs independent assessments of plant operating concerns, technical support, appropriate corrective actions, analysis of events and their effects, effectiveness of response(s) to emergent conditions, classifications of emergencies, protection of the public, and any other actions related to critical safety functions and plant safety during abnormal and emergency situations. The STA also contributes to operations during normal plant conditions. By routine monitoring of equipment and plant operations, the STA can focus on preventative actions in order to mitigate the consequences of an accident.

Because of the permanent cessation of operations and removal of fuel from the reactor vessel, the STA position is no longer necessary for technical and analytical assistance. The Technical Support function will be assumed by the remaining Control Room personnel.

The post-shutdown OSA concluded that the on-shift SM and CRS/CFH can perform any required technical analysis, until augmented by the TSC engineering staff, in a timely manner and there are no collateral duties that would prevent the timely performance of this task.

3.2.6.2 Major Task: Technical Support (Core/Thermal Hydraulics)

Current Staffing Requirement

Augment the on-shift core/thermal hydraulics capability by one within approximately 60 minutes (TSC Reactor Engineer).

Proposed Change

Eliminate the TSC Reactor Engineer ERO position.

Analysis

The function of this responder is to provide confirmation of adequacy of core cooling, maintenance of coolable core geometry, and to verify that actual plant response to the event is as expected. This function is initially performed by the on-shift STA under the guidance of the Shift Manager.

The TSC Reactor Engineer position can be eliminated without increasing the risk to public health and safety because the major task of evaluating core/thermal hydraulics is not necessary in a permanently shutdown and defueled condition.

3.2.7 Major Functional Areas: Fire Fighting/Rescue Operations and First Aid

3.2.7.1 Major Task: Combat Fires

Current Staffing Requirement

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The JAF Fire Brigade complement is a Senior Nuclear Operator and four NPOs. Fire Brigade positions may be filled by qualified staff from other departments.

Proposed Change

The proposed changes to the JAF Emergency Plan will eliminate the on-shift Senior Nuclear Operator positions and three NPO positions. Operations on-shift personnel will consist of one SM, one CRS and three NPOs. Title changes for the CRS and NPOs to CFH and NCOs, respectively, are dependent upon NRC approval of proposed changes to the JAF Technical Specifications (Reference 2).

The Fire Brigade complement will consist of three NPOs and two other fire brigade qualified staff.

Analysis

JAF will enter the permanently defueled condition utilizing a five-member Fire Brigade. The staff comprising the Fire Brigade will change from one Senior Nuclear Operator and four NPOs to three NPOs and two additional fire brigade qualified staff. The Fire Brigade leader and at least two additional Fire Brigade members will have sufficient training in, or knowledge of, plant systems to understand the effects of fire and fire suppressants. The Fire Brigade leader will be competent to assess the potential safety consequences of a fire and advise Control Room personnel. Such competence by the brigade leader may be evidenced by knowledge of plant systems.

All existing Fire Brigade training and qualification requirements will be maintained. The Fire Brigade will continue to perform the tasks of search and rescue in the permanently defueled condition.

The post-shutdown OSA concluded that during a Control Room Fire requiring an evacuation in a permanently defueled condition, the on-shift SM and CRS can perform all required JAF Emergency Plan actions in a timely manner and there are no collateral duties that would prevent the timely performance of emergency plan functions. Therefore, this change in the staffing makeup of the Fire Brigade is acceptable.

3.2.7.2 Major Task: First Aid

Current Staffing Requirement

The JAF First Aid Team consists of a Senior Nuclear Operator, two NPOs, and one Radiation Protection Technician.

Proposed Change

The proposed changes to the JAF Emergency Plan will eliminate the on-shift Senior Nuclear Operator position and three NPO positions. Operations on-shift personnel will consist of one SM, one CRS, and three NPOs. Title changes for the CRS and NPOs to CFH and NCOs, respectively, are dependent upon NRC approval of proposed changes to the JAF Technical Specifications (Reference 2).

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The First Aid complement will consist of one member of the on-shift Operations staff, two other qualified staff and one Radiation Protection Specialist providing radiation protection oversight.

Analysis

JAF will enter the permanently defueled condition utilizing a four-member First Aid Team. The staff comprising the First Aid Team will change from one Senior Nuclear Operator, two NPOs, and one Radiation Protection Technician to one NCO, two other qualified First Aid Team members, and one Radiation Protection Specialist. All existing First Aid training and qualification requirements will be maintained. Per the guidance of NUREG-0654, Table B-1, rescue operations and first aid may be performed by shift personnel assigned other functions. The plant Fire Brigade staff is trained in first aid and rescue operations and is available to perform these tasks if required. First aid and rescue operations are acceptable collateral duties per the guidance of NEI 10-05.

The post-shutdown OSA concluded that the on-shift SM and CRS can perform all required JAF Emergency Plan actions in a timely manner and there are no collateral duties that would prevent the timely performance of emergency plan functions. Therefore, this change in the staffing makeup of the First Aid Team is acceptable.

3.2.8 Conclusion

The risk of a major event resulting in radioactive materials being released to the environment is significantly reduced in the permanently defueled condition. All required radiation protection functions are accommodated within the requisite time frames using the proposed on-shift resources. Any anticipated tasks can be handled by the proposed on-shift resources detailed in the post-shutdown on-shift staffing analysis.

3.3 Summary

ENO completed an evaluation of the proposed reduction in on-shift and ERO staffing and completed a post-shutdown OSA to analyze the ability of the proposed defueled on-shift and ERO organization to respond to an emergency.

The post-shutdown OSA was conducted assuming an on-shift complement of one SM, one CRS/CFH, three NPOs/NCOs, and one Radiation Protection Specialist. The analysis also credited two other fire brigade qualified staff. The results of the post-shutdown OSA indicate that the proposed on-shift personnel can satisfactorily implement all regulatory required emergency plan functions without augmented ERO personnel for at least 90 minutes following an emergency declaration. The post-shutdown OSA confirmed that no chemistry job tasks were noted as being required within the first 90 minutes of any of the analyzed events. Compensatory measures will be implemented to ensure that the ability to assess and declare an emergency during fuel handling activities is maintained. Based on the above, the proposed change in on-shift operations staffing and elimination of the on-shift Chemistry Technician are appropriate for the permanently defueled condition.

Specific training requirements for the Radiation Protection Specialist and NCO positions will be identified using a systematic approach to training, as required by 10 CFR 50.120, and formal gap analyses will be completed for all personnel identified to fill these positions. Individualized training

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plans will be developed and completed to address specific knowledge and skills areas for each of the selected candidates.

The proposed ERO staffing changes do not impact the capabilities of the on-shift staffing or augmented response. The ERFs will continue to be activated within approximately 60 minutes of an Alert or higher declaration. The remaining post-shutdown functional responsibilities of the positions eliminated as a result of the changes described within are being reassigned to remaining positions. The proposed ERO staffing reductions continue to address the risks to public health and safety and comply with the JAF Emergency Plan, site commitments, and applicable regulations.

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4. REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements/Criteria

On-Shift and ERO Staffing

The specific standards for establishing an onsite emergency organization to respond to emergency events appears in 10 CFR 50.47(b) and 10 CFR 50, Appendix E, Section IV.A. Specifically:

- 10 CFR 50.47(b)(1): Primary responsibilities for emergency response by the nuclear facility licensee and by State and local organizations within the Emergency Planning Zones have been assigned, the emergency responsibilities of the various supporting organizations have been specifically established, and each principal response organization has staff to respond and to augment its initial response on a continuous basis.
- 10 CFR 50.47(b)(2): On-shift facility licensee responsibilities for emergency response are unambiguously defined, adequate staffing to provide initial facility accident response in key functional areas is maintained at all times, timely augmentation of response capabilities is available and the interfaces among various onsite response activities and offsite support and response activities are specified.
- 10 CFR 50, Appendix E Section IV.A.1: [E-Plans must contain] A description of the normal plant operating organization.
- 10 CFR 50, Appendix E Section IV.A.2: [E-Plans must contain] A description of the onsite emergency response organization with a detailed discussion of:
 - Authorities, responsibilities, and duties of the individual(s) who will take charge during an emergency;
 - Plant staff emergency assignments;
 - Authorities, responsibilities, and duties on an onsite emergency coordinator who shall be in charge of the exchange of information with offsite authorities responsible for coordinating and implementing offsite emergency measures;

NUREG-0654 (Reference 4), Section II.B, "Onsite Emergency Organization," presents guidance for meeting these requirements. The guidance describes the onsite emergency organization, including the staffing requirements found in Table B-1, "Minimum Staffing Requirements for NRC Licensees for Nuclear Power Plant Emergencies."

10 CFR Part 50, Appendix E, Section IV.A.9 states that licensees shall perform "...a detailed analysis demonstrating that on-shift personnel assigned emergency plan implementation functions are not assigned responsibilities that would prevent the timely performance of their assigned functions as specified in the emergency plan."

NSIR/DPR-ISG-01, "Interim Staff Guidance – Emergency Planning for Nuclear Power Plants" (Reference 6) provides information relevant to performing the on-shift staffing analysis. The ISG states that NEI 10-05, "Assessment of On-Shift Emergency Response Organization Staffing and Capabilities," is an acceptable methodology for performing the staffing analysis. The ISG also indicates that the completed staffing analyses are required to be part of the emergency plan and the results documented and submitted to the NRC in accordance with 10 CFR 50.54(q)(5).

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NRC Regulatory Guide 1.101, "Emergency Response Planning and Preparedness for Nuclear Power Reactors," Revision 4 (Reference 8), Section C, stated in part "The criteria and recommendations in Revision 1 of NUREG-0654/FEMA-REP-1, 'Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants (November 1980),' are methods acceptable to the NRC staff for complying with the standards in 10 CFR 50.47 that must be met in onsite and offsite emergency response plans. These criteria provide a basis for NRC licensees and State and local governments to develop acceptable radiological emergency plans and improve emergency preparedness."

Regulatory Guide 1.219, "Guidance on Making Changes to Emergency Plans for Nuclear Power Reactors," November 2011 (Reference 9), describes a method that the NRC considers to be acceptable to implement the requirements in 10 CFR 50.54(q). In Section 2.a.(1), the NRC encourages licensees to arrange a conference call with the NRC staff to clarify 10 CFR 50.54(q) requirements and guidance within this regulatory guide for EP changes that increase the activation time of emergency response facilities.

Regulatory Issue Summary 2005-02, "Clarifying the Process for Making Emergency Plan Changes," Revision 1 (Reference 10) was issued by the NRC to clarify the meaning of "decrease in effectiveness" and the process for making changes to emergency plans, and to provide some examples of changes that are considered to be a decrease in effectiveness.

4.2 Precedent

The requested changes to the on-shift staffing and ERO staffing are similar in nature to the post-shutdown changes approved by the NRC and implemented by Vermont Yankee Nuclear Power Station (Reference 11).

4.3 No Significant Hazards Consideration

Pursuant to 10 CFR 50.92, Entergy Nuclear Operations, Inc. (ENO) has reviewed the proposed changes and concludes that the changes do not involve a significant hazards consideration because the proposed changes satisfy the criteria in 10 CFR 50.92(c). These criteria require that operation of the facility in accordance with the proposed amendment would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

The proposed changes would revise the JAF Emergency Plan to reduce the number of on-shift and emergency response organization (ERO) positions commensurate with the hazards associated with a permanently shutdown and defueled facility.

The discussion below addresses each of these criteria and demonstrates that the proposed amendment does not constitute a significant hazard.

1. Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

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The proposed changes to the JAF Emergency Plan do not impact the function of plant structures, systems, or components (SSCs). The proposed changes do not affect accident initiators or precursors, nor does it alter design assumptions. The proposed changes do not prevent the ability of the on-shift staff and ERO to perform their intended functions to mitigate the consequences of any accident or event that will be credible in the permanently defueled condition. The proposed changes only remove positions that will no longer be credited in the JAF Emergency Plan in the permanently defueled condition.

Therefore, the proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed changes reduce the number of on-shift and ERO positions commensurate with the hazards associated with a permanently shutdown and defueled facility. The proposed changes do not involve installation of new equipment or modification of existing equipment, so that no new equipment failure modes are introduced. Also, the proposed changes do not result in a change to the way that the equipment or facility is operated so that no new accident initiators are created.

Therefore, the proposed amendment does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Does the proposed amendment involve a significant reduction in a margin of safety?

Response: No.

Margin of safety is associated with confidence in the ability of the fission product barriers (i.e., fuel cladding, reactor coolant system pressure boundary, and containment structure) to limit the level of radiation dose to the public. The proposed changes are associated with the JAF Emergency Plan staffing and do not impact operation of the plant or its response to transients or accidents. The change does not affect the Technical Specifications. The proposed changes do not involve a change in the method of plant operation, and no accident analyses will be affected by the proposed changes. Safety analysis acceptance criteria are not affected by the proposed changes. The revised JAF Emergency Plan will continue to provide the necessary response staff with the proposed changes.

Therefore, the proposed amendment does not involve a significant reduction in a margin of safety.

4.4 Conclusion

Based on the above, ENO concludes that the proposed amendment presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

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5. ENVIRONMENTAL CONSIDERATION

This amendment request meets the eligibility criteria for categorical exclusion from environmental review set forth in 10 CFR 51.22(c)(9) as follows:

- (i) The amendment involves no significant hazards consideration.

As described in Section 4.3 of this evaluation, the proposed changes involve no significant hazards consideration.

- (ii) There is no significant change in the types or significant increase in the amounts of any effluent that may be released offsite.

The proposed changes do not involve any physical alterations to the plant configuration or any changes to the operation of the facility that could lead to a change in the type or amount of effluent release offsite.

- (iii) There is no significant increase in individual or cumulative occupational radiation exposure.

The proposed changes do not involve any physical alterations to the plant configuration or any changes to the operation of the facility that could lead to a significant increase in individual or cumulative occupational radiation exposure.

Based on the above, ENO concludes that the proposed change meets the eligibility criteria for categorical exclusion as set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

6. REFERENCES

1. Letter, Entergy Nuclear Operations, Inc. to USNRC, "Notification of Permanent Cessation of Power Operations," JAFP-15-0133, dated November 18, 2015 (ML15322A273)
2. Letter, Entergy Nuclear Operations, Inc. to USNRC, "License Amendment Request - Revision to Technical Specification Administrative Controls for Permanently Defueled Condition," JAFP-15-0143, dated January 15, 2016 (ML16015A455)
3. Letter, Entergy Nuclear Operations, Inc. to USNRC "Request for Approval of Certified Fuel Handler Training Program," JAFP-15-0142, dated January 15, 2016 (ML16015A456)
4. NUREG-0654, FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Revision 1, published November 1980.
5. Federal Register Volume 76, Number 226, Wednesday, November 23, 2011, Rules and Regulations, "Enhancements to Emergency Preparedness Regulations; Final Rule."

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6. NSIR/DPR-ISG-01, "Interim Staff Guidance – Emergency Planning for Nuclear Power Plants," Revision 0, November 2011 (ML113010523)
7. NEI 10-05, Rev. 0, "Assessment of On-Shift Emergency Response Organization Staffing and Capabilities."
8. NRC Regulatory Guide 1.101, "Emergency Response Planning and Preparedness for Nuclear Power Reactors," Revision 4, July 2003
9. Regulatory Guide 1.219, "Guidance on Making Changes to Emergency Plans for Nuclear Power Reactors," November 2011
10. Regulatory Issue Summary 2005-02, "Clarifying the Process for Making Emergency Plan Changes," Revision 1, April 19, 2011
11. Letter, USNRC to Entergy Nuclear Operations, Inc., "Vermont Yankee Nuclear Power Station – Issuance of Amendment to Renewed Facility Operating License Re: Changes to the Emergency Plan (TAC No. MF3668)," dated February 4, 2015 (ML14346A065)

Attachment 2

James A. FitzPatrick Nuclear Power Plant

Tabular Summary of Proposed Changes to the JAF Emergency Plan

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
Table of Contents	--	Updated page numbers as necessary	Editorial revision to reflect changes described below.
Table of Contents – Section 4.2	4.2.1 Control Rod Drop Accident 4.2.2 Refueling Accident 4.2.3 Main Steam Line Break 4.2.4 Loss of Coolant Accident (LOCA) 4.2.5 Other Accident Types	Sections deleted	<p>Section 14 of the JAF Final Safety Analysis Report (FSAR) describes the Abnormal Operational Transients and DBA scenarios that are applicable during plant operations. Upon docketing of the certifications required by 10 CFR 50.82(a)(1), the 10 CFR Part 50 license for JAF will no longer authorize operation of the reactor or emplacement or retention of fuel into the reactor vessel, as specified in 10 CFR 50.82(a)(2). Therefore, most of the accident scenarios postulated in the FSAR will no longer be applicable once JAF is in the permanently defueled condition.</p> <p>The postulated DBA that will remain applicable to JAF in its permanently shutdown and defueled condition is the FHA in the reactor building, where the SFP is located. FSAR Section 14 will be revised to eliminate the DBAs that will not be applicable in the permanently defueled condition, including the Control Rod Drop Accident.</p>
Table of Contents – Section 5.1	Normal Plant Organization	Permanently Defueled Organization	JAF will no longer be an operating nuclear power plant.

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
			The title change reflects the permanently defueled organizational structure.
Table of Contents – Section 5.3.3	Technical Support Center(TSC) Manager	Deleted	The position of TSC Manager will not exist in the Permanently Defueled ERO. Duties and responsibilities will be transferred to remaining positions Technical Support Center.
Table of Contents – Section 5.3.5	Emergency Operations Facility (EOF) Manager	Deleted	The position of EOF Manager will not exist in the Permanently Defueled ERO. Duties and responsibilities will be transferred to remaining positions Emergency Operations Facility.
Table of Contents – Section 5.3.12	Public Information Liaison	Deleted	Editorial revision to reflect actual content of the Emergency Plan. The Public Information Liaison is not a position in the JAF ERO. 5.3.13 and 5.3.14 renumbered to 5.3.12 and 5.3.13 accordingly.
Table of Contents – Section 5.7, Figure 5-1	Emergency Organization Interface	Defueled Emergency Organization Interface	JAF will no longer be an operating nuclear power plant. The title change reflects the permanently defueled organizational structure.
Table of Contents – Section 5.7, Figure 5-2	Typical Normal Plant Staff Organization	Defueled Emergency Staffing On Shift Response Organization	JAF will no longer be an operating nuclear power plant. The title change reflects the permanently defueled

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
			organizational structure.
Table of Contents – Section 5.7, Figure 5-3	Emergency Staffing On Shift Response Organization	Typical Recovery Organization	Editorial change to match the title of the Section 5, Figure 5-3
Table of Contents – Section 7.4.5	7.4.5 Alternative Staffing Facility	Deleted	Section previously deleted in Revision 33 of Section 7 (previous revision).
Table of Contents – Section 7.10	Fig. 7.5 Verbal Description of Siren Locations	Deleted	Deleted from Revision 34 of Section 7 (previous revision).
Section 1.1	Emergency Response Data System (ERDS) – A computerized link between JAF EPIC data system and the NRC Operations Center	Deleted	The ERDS requirement in Appendix E to 10 CFR Part 50 exempts “all nuclear power facilities that are shut down permanently” from the need to provide an ERDS interface with the NRC. Elimination of ERDS will be dispositioned in accordance with the requirements in 10 CFR 50.54(q), “Conditions of Licenses,” related to emergency preparedness, and specifically to making changes to emergency response plans.
Section 1.2	EOP Emergency Operating Procedure EP EOP support procedure	Deleted	EOPs are not applicable in the permanently shutdown condition
Section 1.2	ERDS Emergency Response Data System	Deleted	The ERDS requirement in Appendix E to 10 CFR Part 50 exempts “all nuclear power facilities that are shut down permanently” from the need to provide an ERDS interface with the NRC. Elimination of ERDS will be dispositioned in

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
			accordance with the requirements in 10 CFR 50.54(q), "Conditions of Licenses," related to emergency preparedness, and specifically to making changes to emergency response plans.
Section 1.2	SAOG Severe Accident Operating Guidelines	Deleted	SAOGs are only entered from the EOPs. The EOPs are no longer applicable in the permanently shutdown condition, therefore the SAOGs are no longer applicable.
Section 2.1	The James A Fitzpatrick Nuclear Power Plant (JAFNPP) is a single unit electric power generating plant equipped with a boiling water reactor rated at approximately 2536 megawatts thermal with a net electrical output of approximately 850 megawatts. The plant's principal components are a nuclear steam generating system, a turbine generator unit, 345 kv and 115 kv switchyards, lake water pumping facilities complete with intake and discharge structures, and other auxiliary equipment.	The James A Fitzpatrick Nuclear Power Plant (JAFNPP) ceased power operations and is permanently defueled in accordance with 10 CFR 50.82(a)(1)(i) and (ii). On November 18, 2015 ENO submitted a notification of permanent cessation of power operations pursuant to 10 CFR 50.82(a)(1)(i). ENO has submitted written certification to the NRC in accordance with 10 CFR 50.82(1) that meets the requirements of 10 CFR 50.4(b)(9) certifying that fuel has been permanently removed from the reactor vessel. Upon docketing of these certifications, the 10 CFR Part 50 license for JAF no longer authorizes operation of the reactor or emplacement or retention of fuel into the reactor vessel, as specified in 10 CFR 50.82(a)(2). With irradiated fuel being stored in	JAF will no longer be an operating nuclear power plant. The Description of the Plant and Site has been revised to indicate the permanently shutdown and defueled condition.

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
		the Spent Fuel Pool and the ISFSI, the reactor, reactor coolant system and secondary systems are no longer in operation and have no function related to the storage of the irradiated fuel. Therefore, the postulated accidents involving failure or malfunction of the reactor and reactor coolant system or secondary systems are no longer applicable.	
Section 2.3	"...the site is quite low, ith the exception..."	"...the site is quite low, with the exception..."	Typo correction
Section 4.2	The Emergency Action Levels contained in IAP-2 Classification of Emergency Conditions provide the ability for classifying approximately eighty discrete types and levels of events. However, in order to develop the maximum projected exposure information contained in Figure 4.2, it was necessary to evaluate several discrete accidents. The discrete accidents addressed in this section are those which are defined in the JAFNPP FSAR Update as "design basis accidents."	Removed the words "addressed in this section". Added second paragraph: With irradiated fuel being stored in the Spent Fuel Pool and the ISFSI, the reactor, reactor coolant system and secondary systems are no longer in operation and have no function related to the storage of the irradiated fuel. Therefore, the postulated accidents involving failure or malfunction of the reactor and reactor coolant systems or secondary systems are not applicable in the permanently shutdown and defueled condition.	JAF will no longer be an operating nuclear power plant. The Spectrum of Postulated Accidents has been revised to indicate the permanently shutdown and defueled condition. Words removed from the first paragraph are to clarify that the design basis accidents are as defined in the FSAR.
Section 4.2.1	Control Rod Drop Accident	Deleted	Section 14 of the JAF Final Safety Analysis Report (FSAR) describes the Abnormal Operational Transients and DBA scenarios that are applicable during plant

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
			<p>operations. Upon docketing of the certifications required by 10 CFR 50.82(a)(1), the 10 CFR Part 50 license for JAF will no longer authorize operation of the reactor or emplacement or retention of fuel into the reactor vessel, as specified in 10 CFR 50.82(a)(2). Therefore, most of the accident scenarios postulated in the FSAR will no longer be applicable once JAF is in the permanently defueled condition.</p> <p>The postulated DBA that will remain applicable to JAF in its permanently shutdown and defueled condition is the FHA in the reactor building, where the SFP is located. FSAR Section 14 will be revised to eliminate the DBAs that will not be applicable in the permanently defueled condition, including the Control Rod Drop Accident.</p>
Section 4.2.2	Refueling Accident	Deleted	<p>Section 14 of the JAF FSAR describes the Abnormal Operational Transients and DBA scenarios that are applicable during plant operations. Upon docketing of the certifications required by 10 CFR 50.82(a)(1), the 10 CFR Part 50 license for JAF will no longer authorize operation of the reactor or emplacement or</p>

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
			<p>retention of fuel into the reactor vessel, as specified in 10 CFR 50.82(a)(2). Therefore, most of the accident scenarios postulated in the FSAR will no longer be applicable once JAF is in the permanently defueled condition.</p> <p>The postulated DBA that will remain applicable to JAF in its permanently shutdown and defueled condition is the FHA in the reactor building, where the SFP is located. FSAR Section 14 will be revised to eliminate the DBAs that will not be applicable in the permanently defueled condition, including the Refueling Accident.</p>
Section 4.2.3	Main Steam Line Break	Deleted	<p>Section 14 of the JAF FSAR describes the Abnormal Operational Transients and DBA scenarios that are applicable during plant operations. Upon docketing of the certifications required by 10 CFR 50.82(a)(1), the 10 CFR Part 50 license for JAF will no longer authorize operation of the reactor or emplacement or retention of fuel into the reactor vessel, as specified in 10 CFR 50.82(a)(2). Therefore, most of the accident scenarios postulated in the FSAR will no longer be applicable once JAF</p>

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
			<p>is in the permanently defueled condition.</p> <p>The postulated DBA that will remain applicable to JAF in its permanently shutdown and defueled condition is the FHA in the reactor building, where the SFP is located. FSAR Section 14 will be revised to eliminate the DBAs that will not be applicable in the permanently defueled condition, including the Main Steam Line Break Accident.</p>
Section 4.2.4	Loss of Coolant Accident (LOCA)	Deleted	<p>Section 14 of the JAF FSAR describes the Abnormal Operational Transients and DBA scenarios that are applicable during plant operations. Upon docketing of the certifications required by 10 CFR 50.82(a)(1), the 10 CFR Part 50 license for JAF will no longer authorize operation of the reactor or emplacement or retention of fuel into the reactor vessel, as specified in 10 CFR 50.82(a)(2). Therefore, most of the accident scenarios postulated in the FSAR will no longer be applicable once JAF is in the permanently defueled condition.</p> <p>The postulated DBA that will remain applicable to JAF in its permanently shutdown and</p>

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
			defueled condition is the FHA in the reactor building, where the SFP is located. FSAR Section 14 will be revised to eliminate the DBAs that will not be applicable in the permanently defueled condition, including the Loss of Coolant Accident.
Section 4.2.5	Other Accident Types	Deleted	<p>Section 14 of the JAF FSAR describes the Abnormal Operational Transients and DBA scenarios that are applicable during plant operations. Upon docketing of the certifications required by 10 CFR 50.82(a)(1), the 10 CFR Part 50 license for JAF will no longer authorize operation of the reactor or emplacement or retention of fuel into the reactor vessel, as specified in 10 CFR 50.82(a)(2). Therefore, most of the accident scenarios postulated in the FSAR will no longer be applicable once JAF is in the permanently defueled condition.</p> <p>The postulated DBA that will remain applicable to JAF in its permanently shutdown and defueled condition is the FHA in the reactor building, where the SFP is located. FSAR Section 14 will be revised to eliminate the DBAs that will not be applicable in the</p>

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
			permanently defueled condition.
Section 4, Figure 4.2	Included dose estimates for FSAR analyzed accidents types while in operation.	Includes only the Fuel Handling accident dose estimates.	The postulated DBA that will remain applicable to JAF in its permanently shutdown and defueled condition is the FHA in the reactor building, where the SFP is located.
Section 4, Figure 4.2	Estimated doses taken from Chapter 14 of the JAFNPP FSAR	Estimated doses taken from JAF-CALC-RAD-04410 Rev. 1, Fuel Handling Accident – AST Analysis for Relaxation of Secondary Containment Operability	Editorial change
Section 5, Table of Contents – Section 5.1	Normal Operation Organization	Permanently Defueled Organization	JAF will no longer be an operating nuclear power plant. The title change reflects the permanently defueled organizational structure.
Section 5, Table of Contents	Figure 5-1 Emergency Organization Interface	Figure 5-1 Defueled Emergency Organization Interface	JAF will no longer be an operating nuclear power plant. The title change reflects the permanently defueled organizational structure.
Section 5, Table of Contents	Figure 5-2, J.A.F.N.P.P. Emergency Staffing On Shift Response Organization	Figure 5-2, J.A.F.N.P.P. Defueled Emergency Staffing On Shift Response Organization	JAF will no longer be an operating nuclear power plant. The title change reflects the permanently defueled organizational structure.
Section 5.1	Normal Operation Organization	Permanently Defueled Organization	JAF will no longer be an operating nuclear power plant. The title change reflects the permanently defueled organizational structure.
Section 5.1	The James A Fitzpatrick Nuclear	The James A Fitzpatrick Nuclear	JAF will no longer be an

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
	<p>Power Plant (JAFNPP) organization for normal operation is described in EN-OP-115, Conduct of Operations, which is consistent with the JAFNPP-specific On Shift Staffing Analysis conducted October 2013. The typical minimum shift crew consists of:</p> <p>1 Shift Manager (SRO)</p> <p>1 Control Room Supervisor (SRO)</p> <p>1 Field Support Supervisor (FSS)/Shift Technical Advisor (STA)*</p> <p>3 Senior Nuclear Operators (RO)</p> <p>6 Nuclear Plant Operators (NPO) – covers Fire Brigade member, AOP-43 and E-Plan Communicator Requirements</p> <p>1 Radiation Protection Technician (Health Physics)</p> <p>1 Chemistry Technician</p> <p>- Security Personnel in accordance with Security Plan</p> <p>*(STA responsibilities may lie with a different member of the Control Room staff. The STA function is not required in modes 4 and 5.)</p>	<p>Power Plant (JAFNPP) organization for normal operation is described in the EIPs, which is consistent with the JAFNPP-specific Post-Shutdown On Shift Staffing Analysis conducted January 2016. The typical minimum shift crew consists of:</p> <p>1 Shift Manager</p> <p>1 Control Room Supervisor/Certified Fuel Handler (CFH)</p> <p>3 Nuclear Plant Operators (NPO)/Non-Certified Operators (NCO)</p> <p>1 Radiation Protection Specialist (Health Physics)</p> <p>2 Fire Brigade qualified individuals*</p> <p>- Security Personnel in accordance with Security Plan</p> <p>* The Fire Brigade complement will consist of the three NPOs listed above and two other fire brigade qualified staff. When the Radiation Protection Specialist is designated as a member of the Fire Brigade, the on-shift staffing will consist of seven (7) personnel. During those instances when the Radiation Protection Specialist is designated as a Fire Brigade member, the minimum on-shift staff is able to cope with the analyzed events.</p>	<p>operating nuclear power plant. The following on-shift positions will be eliminated:</p> <ul style="list-style-type: none"> • Field Support Supervisor (FSS)/Shift Technical Advisor (STA) • Three (3) Senior Nuclear Operators • Three (3) Nuclear Plant Operators • Chemistry Technician <p>Following permanent cessation of operations and removal of fuel from the reactor vessel, Operations on-shift personnel will consist of one (1) Shift Manager (SM), one (1) Control Room Supervisor (CRS)/Certified Fuel Handler (CFH) and three (3) Nuclear Plant Operators (NPOs)/ Non-Certified Operators (NCOs). Title changes for the CRS to CFH and the NPO to NCO are dependent upon NRC approval of proposed changes to the JAF Technical Specifications that replace references to licensed and non-licensed operators with references to CFHs and NCOs.</p> <p>These staffing levels have been evaluated in the JAF analysis of proposed post-shutdown on-shift staffing in conjunction with the postulated</p>

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
			accidents that will be applicable in the permanently defueled condition. Editorial - Title change Radiation Protection Technician to Radiation Protection Specialist
Section 5.2, 1 st Paragraph	If initiating conditions exist that result in the declaration of an emergency, the Shift Manager will assume the role of Emergency Director and will be responsible for emergency direction and coordination. The normal operating organization will also assume their pre-assigned emergency response roles.	If initiating conditions exist that result in the declaration of an emergency, the Shift Manager will assume the role of Emergency Director and will be responsible for emergency direction and coordination. The permanently defueled organization will also assume their pre-assigned emergency response roles.	JAF will no longer be an operating nuclear power plant. The title change reflects the permanently defueled organizational structure
Section 5.2, 1 st Paragraph	The augmented emergency response positions for the onsite plant personnel are depicted in EN-EP-801.	The augmented emergency response positions for the onsite plant personnel are depicted in EPIPs.	Editorial change.
Section 5.3, 1 st Paragraph	The augmented emergency organization is shown in EN-EP-801.	The augmented emergency organization is shown in EPIPs.	Editorial change.
Section 5.3, next to last paragraph	At least two individuals are designated for each emergency position.	JAF has designated ERO members who staff positions required to meet minimum staffing to activate the TSC, OSC, and EOF. EPIPs identify ERO positions assigned to each facility and the minimum staffing required before each facility can be declared operational. All ERO personnel are expected to respond when notified by the emergency call-in notification	JAF will no longer be an operating nuclear power plant. The change reflects the permanently defueled organizational structure.

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
		system.	
Section 5.3.3	<p>Technical Support Center Manager</p> <p>The responsibility for control in the Technical Support Center is held by the TSC Manager.</p> <p>The TSC Manager will perform the following:</p> <ul style="list-style-type: none"> A. Ensure the TSC is being activated in accordance with applicable procedures. B. Ensure notification of emergency response organization has been made. C. Assist the public information personnel in transmitting accurate information. D. Direct the collection, trending and posting of relevant data. E. Provide records and drawings to emergency personnel which describe, as built, conditions and layout of station structures, systems and components. 	Deleted (renumbered accordingly)	The position of TSC Manager will not exist in the Permanently Defueled ERO. Duties and responsibilities will be transferred to remaining positions in the Technical Support Center.
Section 5.3.4	<p>Engineering Coordinator</p> <p>The Engineering Coordinator is located in the TSC and will perform the following:</p> <ul style="list-style-type: none"> A. Provide technical support to the Control Room. 	<p>Engineering Coordinator</p> <p>The Engineering Coordinator is located in the TSC and will perform the following:</p> <ul style="list-style-type: none"> A. Provide technical support to the Control Room. 	The position of TSC Manager will not exist in the Permanently Defueled ERO.

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
	<p>B. Advise the TSC Manager on technical matters.</p> <p>C. Coordinate engineering tasks that may be needed to mitigate accident consequences.</p> <p>D. Assist in collection, posting and dissemination of relevant data.</p>	<p>B. Coordinate engineering tasks that may be needed to mitigate accident consequences.</p> <p>C. Assist in collection, posting and dissemination of relevant data.</p>	
Section 5.3.5	<p>Emergency Operations Facility (EOF) Manager</p> <p>The EOF Manager is located in the EOF and will perform the following:</p> <p>A. Assure EOF is being activated in accordance with applicable procedures.</p> <p>B. Assign personnel to perform the following functions:</p> <ul style="list-style-type: none"> • Relay Part I data via the Radiological Emergency Communications System (RECS) • Update status boards as needed • Telecopy Parts I, II, and III data as needed • Copy and distribute Parts I, II and III data within EOF <p>C. Ensure individuals and equipment are available for performing the following functions:</p> <ul style="list-style-type: none"> • Relaying technical data from 	Deleted (renumbered accordingly)	The position of EOF Manager will not exist in the Permanently Defueled ERO. Duties and responsibilities will be transferred to remaining positions in the Emergency Operations Facility.

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
	plant <ul style="list-style-type: none"> • Relaying required information to offsite agencies • Dose assessment activities • Logging EOF activities • Tracking emergency facilities long term staffing • Procurement of supplies, materials and services D. When the ED assumes Command and Control in the EOF, ensure Parts I, II and III forms are completed and disseminated as required. E. Ensure conferences between EOF Manager and Emergency Director and other staff are conducted as needed.		
Section 5.3.13, 1 st Paragraph	These positions are listed in Figures 5-2 and EN-EP-801.	These positions are listed in Figure 5-2 and EPIPs.	Editorial change.
Section 5.7	Figure 5-1 Emergency Organization Interface	Figure 5-1 Defueled Emergency Organization Interface	JAF will no longer be an operating nuclear power plant. The title change reflects the permanently defueled organizational structure.
Section 5.7	Figure 5-2, Emergency Staffing On Shift Response Organization	Figure 5-2, J.A.F.N.P.P. Defueled Emergency Staffing On Shift Response Organization	JAF will no longer be an operating nuclear power plant. The title change reflects the permanently defueled organizational structure.
Figure 5-1	Figure 5-1 Emergency Organization Interface	Figure 5-1 Defueled Emergency Organization Interface	JAF will no longer be an operating nuclear power plant. The title change reflects the

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
			permanently defueled organizational structure.
Figure 5-2	Figure 5-2, J.A.F.N.P.P. Emergency Staffing On Shift Response Organization	Figure 5-2, , J.A.F.N.P.P. Defueled Emergency Staffing On Shift Response Organization	JAF will no longer be an operating nuclear power plant. The title change reflects the permanently defueled organizational structure.
Figure 5-2	On-Shift Organization Chart	<p>Deleted the following positions:</p> <ul style="list-style-type: none"> - Chemistry Technician - Shift Technical Advisor/Field Support Supervisor - Senior Nuclear Operator <p>Also deleted the asterisked note *STA not required in modes 4 and 5</p> <p>Revised Control Room Supervisor to Control Room Supervisor/CFH</p>	<p>JAF will no longer be an operating nuclear power plant. The following on-shift positions will be eliminated:</p> <ul style="list-style-type: none"> • Field Support Supervisor (FSS)/Shift Technical Advisor (STA) • Three (3) Senior Nuclear Operators • Three (3) Nuclear Plant Operators • Chemistry Technician <p>Following permanent cessation of operations and removal of fuel from the reactor vessel, Operations on-shift personnel will consist of one (1) Shift Manager (SM), one (1) Control Room Supervisor (CRS)/Certified Fuel Handler (CFH) and three (3) Nuclear Plant Operators (NPOs)/ Non-Certified Operators (NCOs). Title changes for the CRS to CFH and the NPO to NCO are dependent upon NRC approval of proposed changes to the JAF Technical Specifications that replace references to</p>

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
			<p>licensed and non-licensed operators with references to CFHs and NCOs.</p> <p>These staffing levels have been evaluated in the JAF analysis of proposed post-shutdown on-shift staffing in conjunction with the postulated accidents that will be applicable in the permanently defueled condition.</p> <p>Editorial – title change Radiation Protection Technician to Radiation Protection Specialist</p>
Table 5-1, Title	Table 5-1 Plant Personnel – Emergency Activity Assignments (In Accordance With James A. Fitzpatrick Nuclear Power Plant On-Shift Staffing Analysis – October 2013)	Table 5-1 Plant Personnel – Emergency Activity Assignments (In Accordance With James A. Fitzpatrick Nuclear Power Plant Post-Shutdown On-Shift Staffing Analysis – January 2016)	JAF will no longer be an operating nuclear power plant. The title change reflects the permanently defueled organizational structure.
Table 5-1, Functional Area – Operations (Assessment of Operational Aspects)	Shift Manager (SRO) 1 Control Room Supervisor (SRO) 1 Senior Nuclear Operator (SNO) 3 Nuclear Plant Operator (NPO) 4	Shift Manager (CFH) 1 Control Room Supervisor/ Certified Fuel Handler (CFH) 1 Nuclear Plant Operator (NPO)/ Non-Certified Operator (NCO) 3	<p>JAF will no longer be an operating nuclear power plant. The following on-shift positions will be eliminated:</p> <ul style="list-style-type: none"> Field Support Supervisor (FSS)/Shift Technical Advisor (STA) Three (3) Senior Nuclear Operators Three (3) Nuclear Plant Operators Chemistry Technician <p>Following permanent cessation of operations and removal of</p>

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
			<p>fuel from the reactor vessel, Operations on-shift personnel will consist of one (1) Shift Manager (SM), one (1) Control Room Supervisor (CRS)/Certified Fuel Handler (CFH) and three (3) Nuclear Plant Operators (NPOs)/ Non-Certified Operators (NCOs). Title changes for the CRS to CFH and the NPO to NCO are dependent upon NRC approval of proposed changes to the JAF Technical Specifications that replace references to licensed and non-licensed operators with references to CFHs and NCOs.</p> <p>These staffing levels have been evaluated in the JAF analysis of proposed post-shutdown on-shift staffing in conjunction with the postulated accidents that will be applicable in the permanently defueled condition.</p>
Table 5-1, Functional Area – Notification/Communication	Nuclear Plant Operator 1	Control Room Supervisor/Certified Fuel Handler (CFH) 1*	<p>NPO assignments in this functional area will be transferred to a CRS/CFH. This transfer of duties has been evaluated in the JAF analysis of proposed post-shutdown on-shift staffing in conjunction with the postulated accidents that will be applicable in the permanently</p>

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
			<p>defueled condition.</p> <p>Title change for the CRS to CFH is dependent upon NRC approval of proposed changes to the JAF Technical Specifications that replace references to licensed and non-licensed operators with references to CFHs and NCOs.</p>
Table 5-1, Functional Area – Radiological Protection Functions/Radiological Surveys (Support of Operational Accident Assessment (In-Plant) Protective Actions)	<p>Offsite Monitoring Team</p> <p>(RP) Technician - 1 Number Available within 60 minutes after call - 8</p> <p>RP Technician (RP/Chem) - 1</p>	<p>Offsite Monitoring Team</p> <p>RP Specialist - 1 Number Available within 60 minutes after call - 6</p> <p>RP Specialist (RP/Chem) - 0</p>	<p>JAF will no longer be an operating nuclear power plant. The on-shift Chemistry Tech position will be eliminated and the number of RP Technicians responding within 60 minutes will be reduced to 6.</p> <p>Removal of the on-shift Chemistry Tech position has been evaluated in the JAF analysis of proposed post-shutdown on-shift staffing in conjunction with the postulated accidents that will be applicable in the permanently defueled condition.</p> <p>Editorial – title change RP Technician to RP Specialist</p>
Table 5-1, Functional Area – Plant System Engineering	<p>Shift Technical Advisor - 1 Core Thermal/Hydraulic - 0 Electrical Engineer - 0 Mechanical Engineer - 0</p>	<p>Electrical Engineer - 0 Mechanical Engineer - 0</p>	<p>JAF will no longer be an operating nuclear power plant. The STA position will be eliminated.</p> <p>STA oversight and technical knowledge in this functional area will be transferred to the Shift Manager and/or the</p>

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
			<p>CRS/CFH. This transfer of duties has been evaluated in the JAF analysis of proposed post-shutdown on-shift staffing in conjunction with the postulated accidents that will be applicable in the permanently defueled condition.</p> <p>Additionally, the need to maintain an Engineer for core thermal/hydraulic assessment in the TSC is no longer applicable.</p>
Table 5-1, Functional Area – Fire Fighting/Rescue Operations and First Aid	Plant Fire Brigade - 1 Search and Rescue Brigade First Aid Team	Plant Fire Brigade - 2* Search and Rescue Brigade First Aid Team	<p>JAF will no longer be an operating nuclear power plant.</p> <p>The Fire Brigade complement will be three NPOs/NCOs and 2 other qualified staff.</p> <p>JAF Search and Rescue Brigade is composed of the JAF Fire Brigade.</p> <p>The First Aid Team is composed of 1 members of Operations staff, 2 other qualified staff, and 1 RP Specialist.</p> <p>Title changes for the NPO to NCO are dependent upon NRC approval of proposed changes to the JAF Technical Specifications that replace references to non-licensed operators with references to</p>

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
			NCOs.
Notes for Table 5-1, Note A	May include a SM, CRS, or FSS as the STA. The STA is not required in modes 4 and 5.	Deleted	JAF will no longer be an operating nuclear power plant. The STA position will be eliminated.
Notes for Table 5-1, Note C	On-shift communicator is normally a qualified NPO but may be other qualified individuals who have equivalent or higher plant operational knowledge. This position is normally augmented by TSC and EOF designated communications positions when those facilities assume communications responsibilities.	This position is normally augmented by TSC and EOF designated communications positions when those facilities assume communications responsibilities.	NPO assignments in this functional area will be transferred to a CRS/CFH. This transfer of duties has been evaluated in the JAF analysis of proposed post-shutdown on-shift staffing in conjunction with the postulated accidents that will be applicable in the permanently defueled condition. Title change for the CRS to CFH is dependent upon NRC approval of proposed changes to the JAF Technical Specifications that replace references to licensed and non-licensed operators with references to CFHs and NCOs.
Notes for Table 5-1, Note D	On-shift Radiation Protection and Chemistry technicians are directed by Shift Manager/Emergency Director until the arrival of RP and/or Chemistry Department supervision.	On-shift Radiation Protection Specialist is directed by Shift Manager/Emergency Director until the arrival of RP and/or Chemistry Department supervision.	JAF will no longer be an operating nuclear power plant. The on-shift Chemistry Tech position will be eliminated. Removal of the on-shift Chemistry Tech position has been evaluated in the JAF analysis of proposed post-shutdown on-shift staffing in conjunction with the postulated accidents that will be applicable

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
			<p>in the permanently defueled condition.</p> <p>Editorial – title change from Radiation Protection Technician to Radiation Protection Specialist.</p>
Notes for Table 5-1n Note E	RP technicians are trained for offsite, onsite and in-plant surveys. RP technicians are brought to the plant to supplement on-shift personnel using a call-out procedure.	RP Specialists are trained for liquid sample collection and analysis, offsite, onsite and in-plant surveys. RP Specialists are brought to the plant to supplement on-shift personnel using a call-out procedure.	<p>The on-shift Chemistry Technician will be eliminated. The RP Specialist will be trained for liquid sample collection and analysis.</p> <p>Editorial – title change from Radiation Protection Technician to Radiation Protection Specialist.</p>
Notes for Table 5-1, Note G	The radwaste operator is an on-shift auxiliary operator (Nuclear Plant Operator).	The radwaste operator is an on-shift auxiliary operator (Nuclear Plant Operator/Non-Certified Operator).	Title changes for the NPO to NCO are dependent upon NRC approval of proposed changes to the JAF Technical Specifications that replace references to non-licensed operators with references to NCOs.
Notes for Table 5-1, Note H	The JAFNPP Fire Brigade complement is a Senior Nuclear Operator and 4 Nuclear Plant Operators.	The JAFNPP Fire Brigade complement is three Nuclear Plant Operators/Non-Certified Operators and two other qualified staff.	<p>JAF will no longer be an operating nuclear power plant.</p> <p>The Fire Brigade complement will be three NPOs/NCOs and 2 other qualified staff.</p> <p>This on-shift complement has been evaluated in the JAF analysis of proposed post-shutdown on-shift staffing in conjunction with the postulated accidents that will be</p>

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
			<p>applicable in the permanently defueled condition.</p> <p>Title changes for the NPO to NCO are dependent upon NRC approval of proposed changes to the JAF Technical Specifications that replace references to non-licensed operators with references to NCOs.</p>
Notes for Table 5-1, Note J	The JAFNPP First Aid Team is composed of a Senior Nuclear Operator, two Nuclear Operators, and one RP Technician.	The JAFNPP First Aid Team is composed of one member of the Operations staff, two other qualified staff and one RP Specialist.	<p>JAF will no longer be an operating nuclear power plant.</p> <p>The First Aid Team will be composed of one NPOs/NCOs, two other qualified staff and 1 RP Specialist.</p> <p>This on-shift complement has been evaluated in the JAF analysis of proposed post-shutdown on-shift staffing in conjunction with the postulated accidents that will be applicable in the permanently defueled condition.</p> <p>Title changes for the NPO to NCO are dependent upon NRC approval of proposed changes to the JAF Technical Specifications that replace references to non-licensed operators with references to NCOs.</p> <p>Editorial – title change from RP Technician to RP Specialist.</p>

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
Section 6.1, 1 st paragraph	It is the primary responsibility of the Shift Manager, however, to act in accordance with any Emergency Operating Procedures (EOPs) and Abnormal Operating Procedures (AOPs) to verify the proper operation of engineered safety features prior to implementation of the emergency plan procedures.	It is the primary responsibility of the Shift Manager, however, to act in accordance with any Abnormal Operating Procedures (AOPs) to verify the proper operation of engineered safety features prior to implementation of the emergency plan procedures.	JAF will no longer be an operating nuclear power plant. EOPs are not used below 212 degrees.
Section 6.1.1, heading	Notification AND ACTIVATION OF ONSITE ORGANIZATION	Notification And Activation Of Onsite Organization	Editorial – format consistency
Section 6.1.1, 3 rd paragraph	The emergency organization for each class of emergency is discussed in Section 5-ORGANIZATION of this Plan. Figures 5-2 – JAFNPP Emergency Staffing On Shift Response Organization and 5-3 – Typical Recovery Organization the normal organization and the Emergency Augmented Staff.	The emergency organization for each class of emergency is discussed in Section 5-ORGANIZATION of this Plan. Figures 5-2 – JAFNPP Defueled Emergency Staffing On Shift Response Organization and 5-3 – Typical Recovery Organization illustrate the normal organization and the Emergency Augmented Staff.	JAF will no longer be an operating nuclear power plant. The title change reflects the permanently defueled organizational structure. Editorial change – sentence structure
Section 6.1.2, 5 th paragraph	<ul style="list-style-type: none"> A. Primary coolant system information B. Safety coolant system information C. Radiation monitoring system information 	<ul style="list-style-type: none"> A. Spent Fuel Pool Cooling system information B. Radiation monitoring system information 	JAF will no longer be an operating nuclear power plant. With irradiated fuel being stored in the Spent Fuel Pool and the ISFSI, the reactor, reactor coolant system and secondary system are no longer in operation and have no function related to the storage of the irradiated fuel.
Section 6.2.1, Unusual Event, 2 nd paragraph	Many events within this classification involve exceeding the Limiting Conditions of Operation	Deleted	JAF will no longer be an operating nuclear power plant. Therefore Limiting Conditions

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
	cases.		of Operations does not apply.
Section 6.2.1, Site Area Emergency, bulleted list	<ul style="list-style-type: none"> - Increased surveillance of instrumentation, which may provide information on the status of the core and reactor coolant system. - Increased offsite monitoring efforts including direct radiation measurements, sampling and analysis of air and other environmental media. - Dose projection results correlated with offsite monitoring data. - Coordinated offsite dose assessment activities with other emergency response organizations. - Increased reactor coolant sampling and analysis frequency. 	<ul style="list-style-type: none"> - Increased surveillance of instrumentation, which may provide information on the status of the spent fuel pool cooling system. - Increased offsite monitoring efforts including direct radiation measurements, sampling and analysis of air and other environmental media. - Dose projection results correlated with offsite monitoring data. - Coordinated offsite dose assessment activities with other emergency response organizations. 	JAF will no longer be an operating nuclear power plant. With irradiated fuel being stored in the Spent Fuel Pool and the ISFSI, the reactor, reactor coolant system and secondary system are no longer in operation and have no function related to the storage of the irradiated fuel.
Section 6.2.1, General Emergency, 1 st paragraph	The emphasis of assessment actions for a General Emergency will be based on the likelihood of substantial core degradation, potential loss of containment integrity, and the release of large quantities of radioactive material. Surveillance of instrumentation relative to the core condition, reactor coolant system activity, containment pressure and radiation level and radioactive effluents will be increased.	The emphasis of assessment actions for a General Emergency will be based on the likelihood of the release of large quantities of radioactive material. Surveillance of instrumentation relative to spent fuel pool cooling and radiation level and radioactive effluents will be increased.	JAF will no longer be an operating nuclear power plant. With irradiated fuel being stored in the Spent Fuel Pool and the ISFSI, the reactor, reactor coolant system and secondary system are no longer in operation and have no function related to the storage of the irradiated fuel.
Section 6.2.1, General	<ul style="list-style-type: none"> - Post-accident sampling analysis of reactor coolant and 	<ul style="list-style-type: none"> - In-plant iodine 	JAF will no longer be an operating nuclear power plant.

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Emergency, bulleted list	containment atmosphere. - In-plant iodine instrumentation. - Plots showing containment radiation versus time. - Determination of the degree of reactor core damage.	instrumentation.	With irradiated fuel being stored in the Spent Fuel Pool and the ISFSI, the reactor, reactor coolant system and secondary system are no longer in operation and have no function related to the storage of the irradiated fuel. Post-accident sampling of reactor coolant and containment atmosphere and determining the degree of reactor core damage will no longer be relevant.
Section 6.2.2	(In instances of a fast breaking event, only a single technician may be available)	(In instances of a fast breaking event, only a single specialist may be available)	Editorial – title change from technician to specialist
Section 6.2.2.1, last paragraph	Equipment is also provided for post-accident reactor water sampling. For details of the specific type and quantities of equipment contained in each kit see SAP-2, EMERGENCY EQUIPMENT INVENTORY.	For details of the specific type and quantities of equipment contained in each kit see SAP-2, EMERGENCY EQUIPMENT INVENTORY.	JAF will no longer be an operating nuclear power plant. With irradiated fuel being stored in the Spent Fuel Pool and the ISFSI, the reactor, reactor coolant system and secondary system are no longer in operation and have no function related to the storage of the irradiated fuel. Post-accident reactor water sampling will no longer be relevant.
Section 6.2.2.2, 1 st paragraph	The dispatching and direction of survey teams to designated locations (see Figures 6.5 and 6.8) and the performance of out-of-plant surveys will be performed in accordance with EAP-5.3,	The dispatching and direction of survey teams to designated locations (see Figures 6.5 and 6.8) and the performance of out-of-plant surveys will be performed in accordance with EAP-5.3,	Editorial – EAP-4 was split into sub-procedures.

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
	<u>ONSITE/OFFSITE DOWNWIND SURVEYS AND ENVIRONMENTAL MONITORING</u> , and EAP-4B, <u>DETAILED DOSE ASSESSMENT</u> .	<u>ONSITE/OFFSITE DOWNWIND SURVEYS AND ENVIRONMENTAL MONITORING</u> , EAP-4A, <u>ONSHIFT DOSE ASSESSMENT</u> , and EAP-4B, <u>DETAILED DOSE ASSESSMENT</u> .	
Section 6.2.3.2.f	Multiple source term selection representing different isotopic mixtures can be entered or the default values changed to more accurately characterize the accident.	Multiple source term selection representing different isotopic mixtures can be entered or the default values changed to more accurately characterize the accident.	Editorial – typo corrected selecton to selection
Section 6.3, first paragraph	Detailed operating procedures, emergency operating procedures, and Severe Accident Operating Guidelines (SAOGs) are utilized by the plant operating personnel to assist them in responding to potential or actual emergency events.	Detailed operating procedures are utilized by the plant operating personnel to assist them in responding to potential or actual emergency events.	JAF will no longer be an operating nuclear power plant. EOPs are not used below 212 degrees. SAOGs are not used for spent fuel pool emergency response.
Section 6.4.1, last paragraph	A range of protective actions to protect onsite personnel during hostile action is provided to ensure the continued ability to safely shut down the reactor and perform the functions of the emergency plan.	A range of protective actions to protect onsite personnel during hostile action is provided to ensure the continued ability to maintain spent fuel pool cooling and perform the functions of the emergency plan.	JAF will no longer be an operating nuclear power plant.
Section 6.5.4, last sentence	This contracted letter of agreement is contained in Appendix C.	This contracted letter of agreement is listed in Appendix C.	Editorial. JAF converted the letters of agreement to a listing in an earlier revision to the Emergency Plan.
Section 7.1.1. last sentence	The primary consideration is to ensure that the activities and the number of personnel involved with the emergency in and around the Control Room shall not impair the	The primary consideration is to ensure that the activities and the number of personnel involved with the emergency in and around the Control Room shall not impair the	JAF will no longer be an operating nuclear power plant.

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
	safe and orderly shutdown of the reactor or the operation of plant safety systems.	operation of plant safety systems.	
Section 7.1.3, bullet 2	Radiation Protection and Chemistry technicians who will be dispatched to obtain in-plant radiation measurements and samples.	Radiation Protection Specialists and Chemistry technicians who will be dispatched to obtain in-plant radiation measurements and samples.	Editorial – title change from Radiation Protection Technicians to Radiation Protection Specialists
Section 7.3.3.1	Post Accident Sampling System (PASS)	Deleted	Once JAF has docketed the certifications of permanent cessation of power operations and permanent removal of fuel from the reactor vessel in accordance with 10 CFR 50.82(a)(1), pursuant to 10 CFR 50.82(a)(2), the Part 50 license no longer authorizes operation of the JAF reactor or emplacement or retention of fuel in the reactor vessel. PASS would not be used to detect, assess or monitor a release resulting from a fuel handling accident in the SFP, the remaining applicable DBA. Therefore, elimination of the equipment as proposed will have no impact on the ability to assess or monitor actual or potential offsite consequences of a radiological emergency.
Section 7.3.3.1	Main Steam Line Radiation Monitoring System	Deleted	Once JAF has docketed the certifications of permanent cessation of power operations and permanent removal of fuel

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
			<p>from the reactor vessel in accordance with 10 CFR 50.82(a)(1), pursuant to 10 CFR 50.82(a)(2), the Part 50 license no longer authorizes operation of the JAF reactor or emplacement or retention of fuel in the reactor vessel. Main Steam Line Radiation Monitoring System would not be used to detect, assess or monitor a release resulting from a fuel handling accident in the SFP, the remaining applicable DBA. Therefore, elimination of the equipment as proposed will have no impact on the ability to assess or monitor actual or potential offsite consequences of a radiological emergency.</p>
Section 7.3.3.1	Off-Gas Radiation Monitoring System	Deleted	<p>Once JAF has docketed the certifications of permanent cessation of power operations and permanent removal of fuel from the reactor vessel in accordance with 10 CFR 50.82(a)(1), pursuant to 10 CFR 50.82(a)(2), the Part 50 license no longer authorizes operation of the JAF reactor or emplacement or retention of fuel in the reactor vessel. Off-Gas Radiation Monitoring System would not be used to detect, assess or monitor a release resulting from a fuel</p>

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
			handling accident in the SFP, the remaining applicable DBA. Therefore, elimination of the equipment as proposed will have no impact on the ability to assess or monitor actual or potential offsite consequences of a radiological emergency.
Section 7.3.3.1	Drywell Continuous Airborne Radioactivity Monitors	Deleted	Once JAF has docketed the certifications of permanent cessation of power operations and permanent removal of fuel from the reactor vessel in accordance with 10 CFR 50.82(a)(1), pursuant to 10 CFR 50.82(a)(2), the Part 50 license no longer authorizes operation of the JAF reactor or emplacement or retention of fuel in the reactor vessel. Drywell Continuous Radioactivity Monitors would not be used to detect, assess or monitor a release resulting from a fuel handling accident in the SFP, the remaining applicable DBA. Therefore, elimination of the equipment as proposed will have no impact on the ability to assess or monitor actual or potential offsite consequences of a radiological emergency.
Section 7.3.3.1	Containment Radiation Monitors	Deleted	Once JAF has docketed the certifications of permanent cessation of power operations and permanent removal of fuel

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
			from the reactor vessel in accordance with 10 CFR 50.82(a)(1), pursuant to 10 CFR 50.82(a)(2), the Part 50 license no longer authorizes operation of the JAF reactor or emplacement or retention of fuel in the reactor vessel. Containment Radiation Monitors would not be used to detect, assess or monitor a release resulting from a fuel handling accident in the SFP, the remaining applicable DBA. Therefore, elimination of the equipment as proposed will have no impact on the ability to assess or monitor actual or potential offsite consequences of a radiological emergency.
Section 7.3.3.9, 1 st Paragraph	<p>Process Monitors</p> <p>Plant parameters such as reactor coolant system level and pressure, containment pressure and temperature and various system flow rates are indicated in the Control Room.</p> <p>Such parameters are also available in the TSC and EOF via the Safety Parameter Display System(SPDS).</p>	<p>Process Monitors (Spent Fuel Pool)</p> <p>Spent Fuel Pool diagnostic indication is provided in the Control Room through annunciation and area radiation monitoring, as well as local indications.</p>	JAF will no longer be an operating nuclear power plant. With irradiated fuel being stored in the Spent Fuel Pool and the ISFSI, the reactor coolant system is no longer in operation and has no function related to the storage of the irradiated fuel. Reactor coolant system level and pressure, and containment pressure and temperature will no longer be relevant.
Section, Table of Contents	EMERGENCY RESPONSE TRAINING	EMERGENCY RESPONSE TRAINING	Editorial – formatting
Section 8.1, last paragraph	Emergency Planning Staff Training	Emergency Planning Staff	Editorial – formatting

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
		Training	
Figure 8.1, Emergency Plan Training for directors, coordinators, and personnel responsible for accident assessment, Title/Function	*Licensed Operator training may be substituted for Emergency Director training.	*Licensed Operator/ Certified Fuel Handler training may be substituted for Emergency Director training.	After permanent cessation of power operations and a certification of permanent removal of fuel from the reactor vessel, in accordance with 10 CFR 50.82(a)(1)(i) and (ii), and pursuant to 10 CFR 50.82(a)(2), the 10 CFR 50 license will no longer authorize reactor operation or emplacement or retention of fuel in the reactor vessel. As a result, licensed reactor operators will no longer be required to support plant operating activities. Instead, approval of a Certified Fuel Handler Training Program is needed to facilitate activities associated with decommissioning and irradiated fuel handling and management. This change is dependent upon NRC approval of the JAF Certified Handler Training and Retraining Program.
Figure 8.1, Emergency Plan Training for directors, coordinators, and personnel responsible for accident assessment, Assigned Personnel	Designated Primary and Alternates a. Emergency Director b. EOF Manager c. Operations Coordinator*	Designated Primary and Alternates a. Emergency Director b. Operations Coordinator*	The position of EOF Manager will not exist in the Permanently Defueled ERO. Duties and responsibilities will be transferred to remaining positions within the Emergency Response Facility.
Figure 8.1, Emergency Plan	Emergency Plan Training for	Emergency Plan Training for	JAF will no longer be an

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
Training for Licensed Operators and Shift Technical Advisors, Title/Function	Licensed Operators and Shift Technical Advisors	Licensed Operators/Certified Fuel Handlers	<p>operating nuclear power plant. The STA position will be eliminated.</p> <p>After permanent cessation of power operations and a certification of permanent removal of fuel from the reactor vessel, in accordance with 10 CFR 50.82(a)(1)(i) and (ii), and pursuant to 10 CFR 50.82(a)(2), the 10 CFR 50 license will no longer authorize reactor operation or emplacement or retention of fuel in the reactor vessel. As a result, licensed reactor operators will no longer be required to support plant operating activities. Title change to Certified Fuel Handlers is dependent upon NRC approval of proposed changes to the JAF Technical Specifications that replace references to licensed operators with references to CFHs.</p>
Figure 8.1, Emergency Plan Training for Licensed Operators and Shift Technical Advisors, Assigned Personnel	Any personnel not listed above who are assigned to a position that requires a valid USNRC Operator License, or who are designated as STAs.	Any personnel not listed above who are assigned to a position that will supervise fuel handling operations in the permanently defueled condition.	<p>JAF will no longer be an operating nuclear power plant. The STA position will be eliminated.</p> <p>After permanent cessation of power operations and a certification of permanent removal of fuel from the reactor vessel, in accordance with 10</p>

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
			<p>CFR 50.82(a)(1)(i) and (ii), and pursuant to 10 CFR 50.82(a)(2), the 10 CFR 50 license will no longer authorize reactor operation or emplacement or retention of fuel in the reactor vessel. As a result, licensed reactor operators will no longer be required to support plant operating activities. Title change to Certified Fuel Handlers is dependent upon NRC approval of proposed changes to the JAF Technical Specifications that replace references to licensed operators with references to CFHs.</p>
<p>Figure 8.1, Emergency Plan Training for Licensed Operators and Shift Technical Advisors, Assigned Personnel, Training Objective</p>	<p>The objective of Emergency Plan training for Licensed Operators and STAs shall be to ensure the capability for immediate response, assessment, and the implementation of measures to prevent or mitigate the consequences of emergencies.</p>	<p>The objective of Emergency Plan training for Licensed Operators/Certified Fuel Handlers shall be to ensure the capability for immediate response, assessment, and the implementation of measures to prevent or mitigate the consequences of emergencies.</p>	<p>JAF will no longer be an operating nuclear power plant. The STA position will be eliminated.</p> <p>After permanent cessation of power operations and a certification of permanent removal of fuel from the reactor vessel, in accordance with 10 CFR 50.82(a)(1)(i) and (ii), and pursuant to 10 CFR 50.82(a)(2), the 10 CFR 50 license will no longer authorize reactor operation or emplacement or retention of fuel in the reactor vessel. As a result, licensed reactor operators will no longer be</p>

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
			required to support plant operating activities. Title change to Certified Fuel Handlers is dependent upon NRC approval of proposed changes to the JAF Technical Specifications that replace references to licensed operators with references to CFHs.
Figure 8.1, Emergency Plan Training for Non-Licensed Operators, Title/Function	Emergency Plan Training for Non-Licensed Operators	Emergency Plan Training for Non-Licensed/Non-Certified Operators	After permanent cessation of power operations and a certification of permanent removal of fuel from the reactor vessel, in accordance with 10 CFR 50.82(a)(1)(i) and (ii), and pursuant to 10 CFR 50.82(a)(2), the 10 CFR 50 license will no longer authorize reactor operation or emplacement or retention of fuel in the reactor vessel. As a result, non-licensed reactor operators will no longer be required to support plant operating activities. Title changes for the Non-Licensed Operator to Non-Certified Operator are dependent upon NRC approval of proposed changes to the JAF Technical Specifications that replace references to non-licensed operators with references to NCOs.
Figure 8.1, Emergency Plan Training for Non-Licensed	Non-Licensed Operators	Non-Licensed/Non-Certified Operators	After permanent cessation of power operations and a

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
Operators , Assigned Personnel			certification of permanent removal of fuel from the reactor vessel, in accordance with 10 CFR 50.82(a)(1)(i) and (ii), and pursuant to 10 CFR 50.82(a)(2), the 10 CFR 50 license will no longer authorize reactor operation or emplacement or retention of fuel in the reactor vessel. As a result, non-licensed reactor operators will no longer be required to support plant operating activities. Title changes for the Non-Licensed Operator to Non-Certified Operator are dependent upon NRC approval of proposed changes to the JAF Technical Specifications that replace references to non-licensed operators with references to NCOs.
Figure 8.1, Emergency Plan Training for Non-Licensed Operators , Training Objective	The objective of Emergency Plan training for Non-Licensed Operators shall be to ensure the capability for immediate response by conducting measures to prevent or mitigate accident conditions.	The objective of Emergency Plan training for Non-Licensed/Non-Certified Operators shall be to ensure the capability for immediate response by conducting measures to prevent or mitigate accident conditions.	After permanent cessation of power operations and a certification of permanent removal of fuel from the reactor vessel, in accordance with 10 CFR 50.82(a)(1)(i) and (ii), and pursuant to 10 CFR 50.82(a)(2), the 10 CFR 50 license will no longer authorize reactor operation or emplacement or retention of fuel in the reactor vessel. As a result, non-licensed reactor operators will no longer be

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
			required to support plant operating activities. Title changes for the Non-Licensed Operator to Non-Certified Operator are dependent upon NRC approval of proposed changes to the JAF Technical Specifications that replace references to non-licensed operators with references to NCOs.
Figure 8.1, Emergency Communications, Assigned Personnel	Designated Primary and Alternates: a. ENS Communicator b. Offsite Communicators (EOF) c. EOF Communicators	Designated Primary and Alternates: a. ENS Communicator b. Offsite Communicators (EOF)	The positions of EOF Communicators will not exist in the Permanently Defueled ERO. Duties and responsibilities will be transferred to remaining positions within the Emergency Operations Facility.
Figure 8.1, Radiological Assessment, Assigned Personnel	Designated Primary and Alternates: a. Radiological Assessment Coordinator (EOF) b. Offsite Team Coordinator (EOF) c. Dose Assessor (EOF) d. Dose Assessor Support (EOF)	Designated Primary and Alternates: a. Radiological Assessment Coordinator (EOF) b. Offsite Team Coordinator (EOF) c. Dose Assessor (EOF)	The position of EOF Dose Assessor Support will not exist in the Permanently Defueled ERO. Duties and responsibilities will be transferred to remaining positions within the Emergency Operations Facility.
Figure 8.1, Radiological Controls and Surveys During Emergencies, Assigned Personnel	Designated Primary and Alternates: a) In-Plant Radiological Controls and Downwind Survey Teams b) RP Technicians c) Chemistry Technicians d) Radiation Protection / Chemistry Coordinator	Designated Primary and Alternates: a) In-Plant Radiological Controls and Downwind Survey Teams b) RP Specialists c) Chemistry Technicians d) Offsite Monitoring Team	The position of OSC Rad/Chem Coordinator will not exist in the Permanently Defueled ERO. Duties and responsibilities are redundant to those performed by the OSC Manager or Radiological Coordinator in the TSC. Other duties and responsibilities will

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
	e) Offsite Monitoring Team		be transferred to remaining positions within the ERO. Editorial – title change RP Technicians to RP Specialists
Figure 8.1, Emergency Repair/Corrective Actions Training, Assigned Personnel	Designated Primary and Alternates: a. TSC Maintenance Coord. b. OSC Manager c. Mechanics d. Electricians e. Instrument and Control Technicians f. Electrical/I & C Coordinator g. Mechanical Coordinator	Designated Primary and Alternates: a. TSC Maintenance Coord. b. OSC Manager c. Mechanics d. Electricians e. Instrument and Control Technicians	The positions of OSC Electrical/I&C Coordinator and Mechanical Coordinator will not exist in the Permanently Defueled ERO. Duties and responsibilities will be transferred to remaining positions within the ERO.
Appendix A, Supplemental Action Procedures (SAP)	SAP-17 Emergency Response Data System (ERDS) Quarterly Testing	Deleted	The ERDS requirement in Appendix E to 10 CFR Part 50 exempts “all nuclear power facilities that are shut down permanently” from the need to provide an ERDS interface with the NRC. Elimination of ERDS will be dispositioned in accordance with the requirements in 10 CFR 50.54(q), “Conditions of Licenses,” related to emergency preparedness, and specifically to making changes to emergency response plans.
Appendix A, Emergency Plan Implementing Procedures (EAP)	EAP-45, Emergency Response Data System (ERDS) System Configuration Control Program	Deleted	The ERDS requirement in Appendix E to 10 CFR Part 50 exempts “all nuclear power facilities that are shut down permanently” from the need to provide an ERDS interface with

Emergency Plan Section	Before (multiple revs)	After	Reason for Change
			the NRC. Elimination of ERDS will be dispositioned in accordance with the requirements in 10 CFR 50.54(q), "Conditions of Licenses," related to emergency preparedness, and specifically to making changes to emergency response plans.
Appendix I, Emergency Equipment Kits	PASS Cabinet Entry equipment for obtaining PASS sample	Deleted	Once JAF has docketed the certifications of permanent cessation of power operations and permanent removal of fuel from the reactor vessel in accordance with 10 CFR 50.82(a)(1), pursuant to 10 CFR 50.82(a)(2), the Part 50 license no longer authorizes operation of the JAF reactor or emplacement or retention of fuel in the reactor vessel. PASS would not be used to detect, assess or monitor a release resulting from a fuel handling accident in the SFP, the remaining applicable DBA. Therefore, elimination of the equipment as proposed will have no impact on the ability to assess or monitor actual or potential offsite consequences of a radiological emergency.

Attachment 3

James A. FitzPatrick Nuclear Power Plant

Proposed Revision to the JAF Emergency Plan Pages

ENTERGY NUCLEAR OPERATIONS, INC.
JAMES A. FITZPATRICK NUCLEAR POWER PLANT

EMERGENCY PLAN VOLUME 1

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EFFECTIVE DATE: _____

~~OSRC MEETING NO.~~ _____ ~~DATE~~ _____

*****	*****
* INFORMATIONAL USE *	* QUALITY RELATED *
*****	*****

* ADMINISTRATIVE *	

PERIODIC REVIEW DUE DATE: May 2016

Rev. 31PENDING

ENTERGY NUCLEAR OPERATIONS, INC
JAMES A. FITZPATRICK NUCLEAR POWER PLANT

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ENTERGY NUCLEAR OPERATIONS, INC.
JAMES A. FITZPATRICK NUCLEAR POWER PLANT

EMERGENCY PLAN VOLUME 1

DEFINITIONS/ACRONYMS

SECTION 1

APPROVED BY: _____

Director, Regulatory and Performance Improvement Date

APPROVED BY: _____

Responsible Procedure Owner Date

EFFECTIVE DATE: _____

OSRC MEETING NO. _____ DATE _____

*****	*****
* INFORMATIONAL USE *	* QUALITY RELATED *
*****	*****
*****	*****
* ADMINISTRATIVE *	

PERIODIC REVIEW DUE DATE: FEBRUARY 2016

REVISION SUMMARY PAGE

REV. NO. CHANGE AND REASON FOR CHANGE

~~28~~ ~~FULL REVISION~~

~~The reason for the changes in this procedure are (1) Transition to the fleet standard ERO which removes several ERO positions from the ERO structure (2) eliminating command functions from the TSC (emergency classification and declaration, offsite notifications, protective action recommendation development and other Emergency Director related duties) (3) editorial changes for the correction of grammar, spelling and punctuation.~~

- ~~1. Section 1.1 Definitions — remove Accident Management Team (AMT)~~
- ~~2. Section 1.1 Command and Control — remove TSC and remove "This designation can transition between different Emergency Response Facilities during the event"~~
- ~~3. Section 1.1 Emergency Director — remove "Emergency Plant Manager, TSC Manager, or Operations Coordinator"~~
- ~~4. Section 1.1 Emergency Plant Manager — remove "and may assume the Emergency Director role"~~
- ~~5. Section 1.1 Severe Accident Operating Guidelines — remove "for use by the Accident Management Team (AMT)"~~
- ~~6. Section 1.1 Technical Support Guidelines — replace "by the AMT" with "in implementing SAOG's"~~
- ~~7. Section 1.2 — remove AMT Accident Management Team and WPO White Plains Office~~

PENDING

Section 4.2: Updated for permanent cessation of power operations.

SECTION 1
DEFINITIONS/ACRONYMS

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SECTION 1

DEFINITIONS/ACRONYMS

1.0 DEFINITIONS/ACRONYMS

1.1 Definitions

This section contains the definition of terms for the James A. FitzPatrick Nuclear Power Plant.

Accountability - The process by which the onsite emergency organization determines the location of personnel in order to identify missing and/or injured personnel.

Activation - Actions taken to staff and setup an emergency response facility to make it operational. Actions include but are not limited to notification of emergency personnel, equipment setup and equipment operability testing.

Alert - Events are in process or have occurred which involve a potential or actual substantial degradation of the level of safety of the plant, or a Security event that involves probable life threatening risk to site personnel or damage to site equipment because of intentional malicious dedicated efforts of a hostile act. Any releases are expected to be limited to small fractions of the EPA Protective Action Guides exposure levels beyond the site boundary.

Alternate NY State Watch Center (Alternate SWC) - The Alternate NY SWC is located in the New York State Police Communications Center in Public Security Building No. 22, State Office Building Campus, Albany, New York. This facility is manned 24 hours per day to receive Radiological Emergency Communication System (RECS) or alternate notifications during off-hours.

Area Radiation Monitor (ARM) - Instruments (some of which are fixed) which typically measures gross gamma radiation levels in a local area and alarms when the radiation exposure rate reaches the preset alarm level.

Assessment Actions - Those actions taken during or after an accident to obtain and process information necessary to make decisions to implement specific emergency measures.

Augmented Dose Assessment - Dose Assessment from the Emergency Offsite Facility (EOF) or Technical Support Center (TSC) utilizing dose assessment staff.

Command and Control - This is the function where the current Emergency Director resides (Control Room or EOF).

Committed Dose Equivalent (CDE) - The dose equivalent to organs or tissues of reference that will be received from an intake of radioactive material by an individual during the 50-year period following the intake (organ dose)(per EPA-400 definition).

Committed Effective Dose Equivalent (CEDE) - The sum of the products of the weighing factors applicable to each of the body organs or tissues that are irradiated and the committed dose equivalent to these organs or tissues.

Corporate Emergency Center (CEC) Manager - Coordinates requests for personnel, equipment, materials, and support services during the emergency or recovery phase.

Corrective Actions - Those emergency measures taken to mitigate or terminate an emergency situation at or near the source of the problem in order to prevent an uncontrolled release of radioactive material or to reduce the magnitude of a release.

County Warning Point - The E-911 Center at the Oswego County Public Safety Building in Oswego. This serves as a notification point for messages from the utilities to appropriate officials in Oswego County.

Deep Dose Equivalent (DDE) - Applies to external whole body exposure, is the dose equivalent at tissue depth of 1 cm (1,000 mg/cm²) [external whole body dose].

Dose Equivalent (DE) - The product of the absorbed dose in tissue, quality factor, and all other necessary modifying factors at the location of interest; measured in rem or seivert.

Dose Projection - A calculated estimate of the potential dose to individuals at a given location, usually off site.

Emergency Actions - A collective term which encompasses the assessment, corrective and protective actions taken during the course of an emergency.

Emergency Action Levels (EAL) - Plant instrumentation readings, survey measurements, or off normal plant conditions that are used to classify an emergency. (See Emergency Classification System.)

Emergency Action Procedure (EAP) - The procedures which provide a detailed list of responsibilities and actions to be implemented by personnel staffing emergency facilities.

Emergency Alert System (EAS) [formerly Emergency Broadcast System (EBS)] - A network of radio stations organized to permit designated government officials a means of timely and efficient issuance of emergency information and instructions to the public.

Emergency Classification System - A system that categorizes certain abnormal plant conditions into one of the following classes:

- Unusual Event
- Alert
- Site Area Emergency
- General Emergency

Emergency Director (ED) - The position designated in the emergency response organization that has the authority and responsibility to implement and administer the Emergency Plan. The Shift Manager may act as the Emergency Director.

Emergency Dose Assessment Modeling System (EDAMS) - A Personal Computer (PC) based computer program that calculates release rates, dose projections, protective actions and obtains meteorological data for emergencies, based on data input.

Emergency Operations Center (EOC) - Designated state and county facilities, used for the assessment of emergency information and coordination and control of local and state emergency response personnel.

Emergency Operations Facility (EOF) - The designated and equipped facility that is used to provide continuous coordination with local, state, and federal agencies, and provide evaluation of FitzPatrick activities during an emergency having or potentially having environmental consequences. The EOF is located on County Route 176, approximately 12 miles south of the JAF plant.

Emergency Plan Implementing Procedures - The procedures, which detail the specific course of action for implementing the emergency plan at the JAF Facility.

Emergency Preparedness Manager - The individual responsible for the coordination of emergency planning efforts.

Emergency Plant Manager (EPM) - Individual normally assigned to the TSC who normally oversees the onsite and plant aspects of the emergency. The EPM reports to the Emergency Director.

Emergency Planning Zone (EPZ) - There are two Emergency Planning Zones. The first is an area, approximately 10 miles in radius around the JAFNPP, for which detailed emergency planning consideration of the Plume Exposure Pathway has been given to ensure prompt and effective protective actions for the public. The second is an area, approximately 50 miles in radius around the JAFNPP, for which emergency planning consideration of the Ingestion Exposure Pathway has been given to ensure effective preventative measures for the public.

Emergency and Plant Information Computer (EPIC) - Computer providing display of plant data to the Control Room, TSC, and EOF. EPIC includes Safety Parameter Display System (SPDS) information.

~~Emergency Response Data System (ERDS) - A computerized link between JAF EPIC data system and the NRC Operations Center.~~

Emergency Response Facility (ERF) - ERF is a generic term referring to a facility that is used for emergency purposes. These facilities include the Control Room, Technical Support Center, Emergency Operations Facility, Operational Support Center, Alternate Operational Support Center, Joint Information Center, Oswego County Emergency Operations Center.

Emergency Response Planning Area (ERPA) - Pre-designated sub-areas within the 10-Mile Emergency Planning Zone used to more specifically target the recommendation of off site protective actions.

Emergency Response/Recovery Organization - The organizational structure within the White Plains Office and the James A. FitzPatrick Nuclear Power Plant Emergency Response Organization, which is responsible for coordinating response and recovery from emergency conditions at the plant.

Emergency Telecommunications System (ETS) - Part of the Federal Telecommunications system used by the NRC for emergency communications.

Exclusion Area - The property of the James A. FitzPatrick Nuclear Power Plant and Nine Mile Point stations surrounding the Protected Area in which the licensee has the authority to determine all activities including exclusion or removal of personnel and property from the area.

Federal Radiological Monitoring and Assessment Plan - An arrangement whereby the Department of Energy and other federal agencies provide teams to assist JAFNPP, Oswego County and New York State with an in-depth capability during a radiological emergency.

Final Safety Analysis Report (FSAR) - Multi-volume report describing a nuclear power plant's site, design features, safety features and the utility's intended methods of operation.

General Emergency - Events, which are in process or have occurred which involve imminent or actual substantial core degradation or melting with the potential for loss of containment integrity, or Security events that result in an actual loss of physical control of the facility.

White Plains Office - The corporate offices of Entergy Nuclear Northeast, located at 440 Hamilton, White Plains, New York 10601.

Hostile Action - An act toward JAFNPP or its personnel that includes the use of violent force to destroy equipment, take hostages, and/or intimidate the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, projectiles, vehicles, or other devices used to deliver destructive force. Other acts that satisfy the overall intent may be included. Hostile Action should not be construed to include acts of civil disobedience or felonious acts that are not part of a concerted attack on JAFNPP.

Ingestion Exposure Pathway - A pathway by which individuals can be exposed to radiation from ingestion of contaminated water or foods such as milk, fresh vegetables, and fish.

Initial Dose Assessment - Dose assessment using a pre-calculated dose assessment value tree, to be conducted before augmented dose assessment.

Joint Information Center - Located next to the Oswego County Airport on Co. Rt. 176 in the Town of Volney. The Joint Information Center provides a central facility for the release of information to the public. The facility includes participants from JAFNPP, Nine Mile Point, Oswego County, New York State, and Federal Agencies.

Joint Information Center Manager - ERO position whose primary responsibility is direction of all activities at the Joint Information Center and coordination of information.

Meteorological Monitoring System - A computer and software that accesses the main, backup and inland tower data. Data is accessible by EDAMS.

National Warning System (NAWAS) - A nationwide warning system used to warn of actual or impending natural or man-made disasters. NAWAS warning points are strategically located and are manned on a 24-hour-a-day basis.

New York State Emergency Operations Center (NYSEOC) - The New York State EOC is located in the substructure of the Public Safety Building No. 22, State Office Building Campus, Albany, New York. It is the State Command Post from which emergency operations will be directed and coordinated.

NSSS Supplier - Nuclear Steam Supply System Supplier, General Electric Company, San Jose, California.

Offsite - The area outside the Exclusion Area. Offsite surveys include the area inside the exclusion area, but outside the protected area.

Onsite - The area within the Exclusion Area.

Operational - Status of an emergency facility declared by the appropriate facility manager upon determining that the facility is adequately staffed and equipment is setup and available to assume/perform the emergency functions assigned to that facility.

Operational Support Center (OSC) - The area on the 272' level of the old administration building that serves as an onsite assembly and dispatch area for plant survey, fire, rescue, and maintenance teams.

Oswego County Emergency Management Office (OCEMO) - The lead local government agency responsible for off site emergency response within the 10 mile EPZ surrounding the James A. FitzPatrick Nuclear Power Plant.

Oswego County Emergency Operations Center (OCEOC) - Located in the Emergency Management Office in the basement of the Oswego County Branch Building, Fulton, New York; serves as a command post from which emergency operations will be directed and coordinated.

Oswego County Warning Point (OCWP) - The dispatch center at Oswego E-911 Center in Oswego. This serves as a notification point for messages from the utilities to appropriate officials in the County.

Plant Data Acquisition System - A computer link making plant data available for onsite and offsite emergency facilities.

Plant Operator - Any member of the plant staff who, by virtue of training and experience, is qualified to assess the indications or reports for validity and to compare the same to the EALs in the licensee's emergency classification scheme.

Plume Exposure Pathway - The principal exposure sources from this pathway are: a) external exposure to gamma radiation from the plume and from deposited material; and b) inhalation exposure from the passing radioactive plume. This pathway is commonly identified as the 10 mile EPZ.

Population at Risk - Those persons for whom protective actions are being or would be taken.

Primary Assembly Areas - Specific locations at the plant designated for the assembly of personnel in the event of a Protected Area Evacuation.

Projected Dose - The estimated radiation dose that would be received by individuals following a release of radiation.

Protected Area - The area within the plant security fence designated to implement the security requirements of 10 CFR 73.

Protected Area Evacuation - Evacuation of individuals from the Protected Area, with assembly at designated primary assembly areas.

Protective Actions - Actions taken in anticipation of / or after a release of radioactive material, for the purpose of preventing or minimizing radiological exposures to persons that would otherwise be likely to occur if the actions were not taken. Some of the protective actions are:

- Protected Area Evacuation On Site
- Site Evacuation
- Sheltering off site population
- Evacuation of the off site population
- Isolation of ingestion pathways and sources

Protective Action Guides (PAG) - Guidance developed by the Environmental Protection Agency regarding projected radiological dose or dose commitment values to individuals in the general population that warrant protective action following a release of radioactive material.

RADDOSE V - A sub-program of EDAMS that performs the dose assessment calculations during emergencies, based on input.

Radiologically Controlled Area (RCA) - Any area, access to which is limited for the purpose of protecting individuals against undue risks from exposure to radiation and radioactive materials. The RCA is posted with a sign bearing the radiation caution symbol in magenta, purple or black on a yellow background. Examples of radiologically controlled areas are:

- Reactor Building
- Turbine Building
- Radwaste Building
- Main Stack

Examples of other postings within an RCA include:

- RADIOACTIVE MATERIALS
- CONTAMINATED AREA
- AIRBORNE RADIOACTIVITY AREA
- HIGHLY CONTAMINATED AREA
- RADIATION AREA
- HIGH RADIATION
- VERY HIGH RADIATION AREA

Radiological Emergency Communications System (RECS) - System used to provide initial notification of an emergency, and continuing emergency information, to the State, Oswego County and Nine Mile Point Stations.

Recovery Activities - Those actions taken after the emergency to restore the plant as nearly as possible to its pre-emergency condition.

Remote Assembly Area - Specific locations outside the JAFNPP exclusion area for the assembly of personnel in the event of a Site Evacuation. The primary Remote Assembly Area is the Oswego County Airport on Co. Rt. 176 in the Town of Volney.

Restricted Area - An area, access to which is limited by the licensee, for the purpose of protecting individuals against undue risks from exposure to radiation and radioactive materials. Separate rooms or areas in any building may be set apart as a restricted area. The restricted area is that area inside of the protected area fence and any other area within the site boundary that is appropriately identified and restricted from unauthorized entry.

Severe Accident Operating Guidelines (SAOG's) - Guidelines to assist in dealing with a Severe Accident.

Safety Parameter Display System (SPDS) - System providing a display of plant data from which the safety status of plant operations may be assessed in the Control Room, Technical Support Center and Emergency Operations Facility.

Site Area Emergency - Events which are in process, or have occurred, which involve potential or actual major failure of plant functions needed for protection of the public, or Security events that result in intentional damage or because of intentional malicious dedicated efforts of hostile action: toward site personnel or equipment that could lead to the likely failure of, or: prevents effective access to equipment needed for the protection of the public. Any releases are not expected to result in exposure levels which exceed EPA Protective Action Guide exposure levels beyond the site boundary.

Site Evacuation - Evacuation of all people, except NMPNS personnel, from the exclusion area and evacuation of all nonessential personnel from the JAFNPP protected area via the security gate to the designated Remote Assembly Area or home.

Site Recovery Director - The Site Recovery Director is responsible for the management of recovery operations and other support functions. The Recovery Director is the senior company official who has the requisite authority, management ability and technical know-how to manage the nuclear power plant recovery operations. He has full authority to make required decisions regarding plant recovery without consulting higher management.

Spokesperson - ERO position whose primary responsibility is to act as the individual to coordinate all outgoing information to public officials, the news media and to the public.

State Emergency Operations Center - The New York State EOC is located in the substructure of the Public Safety Building No. 22, State Office Building Campus, Albany, New York. It is the State Command Post from which emergency operations will be directed and coordinated.

State Watch Center (SWC) - A center for receipt and dissemination of warnings of an attack upon the United States as well as for actual or impending natural or man-made disasters.

Technical Support Center (TSC) - The emergency facility activated and staffed by plant management and other personnel during an emergency to utilize technical data and displays to provide direction for implementation of emergency procedures, and in-depth technical support to Control Room activities. Located on the second floor of the old administration building.

Technical Support Guidelines (TSG's) - Guidelines providing information for use in implementing SAOG's.

Thyroid Dose and Thyroid Dose Rate - These terms have been replaced with Committed Dose Equivalent-Thyroid (CDE-Thyroid). CDE-Thyroid is defined as the internal dose that will be received by the thyroid over 50 years following an intake of radioactive materials plus the deep dose equivalent to the thyroid. For application offsite, dose to the child thyroid has been agreed upon by the New York State Dose Assessment Task Force. For application onsite to JAFNPP emergency workers, an adult thyroid dose is used.

Total Effective Dose Equivalent (TEDE) - The sum of the Deep Dose Equivalent (DDE) plus Committed Effective Dose Equivalent (CEDE) from inhalation components.

Unrestricted Area - An area, access to which is neither limited nor controlled by the licensee.

Unusual Event (UE) - Events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant or indicate a security threat to facility protection. No releases of radioactive material requiring offsite response or monitoring are expected, unless further degradation of safety systems occurs.

Web-based Emergency Operations Center (WebEOC) - A crisis information management software tool.

Whole Body Dose and Whole Body Dose Rate - These terms have been replaced with Total Effective Dose Equivalent (TEDE). TEDE is defined as the sum of the deep dose equivalent (DDE)(external dose) and the inhalation components. The New York State Utilities Dose Assessment Task Force agrees with the recommendation of NUMARC in defining TEDE (previously external dose) as the DDE and any measurable thyroid CEDE components during the early phase of the emergency. The early phase is defined up to the first four days after an emergency. In this usage, the TEDE rate may be considered equivalent to a gamma dose rate reading on a fixed or portable survey instrument. Actual iodine, particulate and ground shine dose components should be factored in to the TEDE as soon as possible, although this is not required for initial TEDE determination. Default iodine to noble gas ratios may be used until actual data becomes available. Since the iodine contribution to TEDE is very small using the default ratio of approximately 1E-4, it can be omitted from the determination of TEDE.

1.2 Acronyms

AE	Architect/Engineer
ALARA	As Low As Reasonably Achievable
AOP	Abnormal Operating Procedure
ARM	Area Radiation Monitor
BRH	New York State Bureau of Environmental Radiation Protection
CDE	Committed Dose Equivalent
CEDE	Committed Effective Dose Equivalent
CWP	County Warning Point
DDE	Deep Dose Equivalent
DE	Dose Equivalent
DHS	Department Of Homeland Security
DLR	Dosimeter Legal Record
DO	Duty Officer
DOE	U. S. Department of Energy
EAL	Emergency Action Level
EAP	JAFNPP Emergency Action Procedure
EAS	Emergency Alert System
ECCS	Emergency Core Cooling System
ED	Emergency Director
EDAMS	Emergency Dose Assessment Modeling System
EMS	Emergency Medical Service
ENS	Emergency Notification System
EOC	Emergency Operations Center

EOF	Emergency Operations Facility
EOP	Emergency Operating Procedure
EP	EOP Support Procedure
EPA	Environmental Protection Agency
EPM	Emergency Plant Manager
EPIP	NMPNS Emergency Plan Implementing Procedure
EPZ	Emergency Planning Zone
ERDS	Emergency Response Data System
ERON	Emergency Response Organization Notification System
ERPA	Emergency Response Planning Area
ETS	Emergency Telecommunications System
FEMA	Federal Emergency Management Agency
FRMAP	Federal Radiological Monitoring and Assessment Plan
FSAR	Final Safety Analysis Report
IAP	JAFNPP Emergency Plan Immediate Action Procedure
JAFNPP	James A. FitzPatrick Nuclear Power Plant
JIC	Joint Information Center
KI	Potassium Iodide
LCO	Limiting Condition of Operation
LOCA	Loss of Coolant Accident
MSIV	Main Steam Isolation Valve
NAWAS	National Warning System
NFO	Nuclear Facility Operator
NMPNS	Nine Mile Point Nuclear Station
NRC	U. S. Nuclear Regulatory Commission
NSSS	Nuclear Steam Supply System
NWS	National Weather Service
NYSDOH	New York State Department of Health
NYSEOC	New York State Emergency Operations Center
NYSOEM	New York State Office of Emergency Management
NYSPIO	New York State Public Information Officer
NYSWC	New York State Watch Center
OCEMO	Oswego County Emergency Management Office
OCEOC	Oswego County Emergency Operations Center
OCNFLO	Oswego County Nuclear Facility Liaison Officer
OP	Operating Procedure
OSC	Operational Support Center
OSRC	Onsite Safety Review Committee

PA	Public Address
PAG	Protective Action Guides
PAR	Protective Action Recommendation
PASS	Post Accident Sampling System
PNS	Prompt Notification System
RCA	Radiologically Controlled Area
RECS	Radiological Emergency Communications System
RERP	Radiological Emergency Response Plan
SAOG	Severe Accident Operating Guidelines
SAP	JAFNPP Emergency Plan Supplemental Action Procedure
SBGT	Standby Gas Treatment
S/D	Shutdown
SEMO	State Emergency Management Office
SEOC	State Emergency Operations Center
SGTS	Standby Gas Treatment System
SM	Shift Manager
SOCA	Security Owner Controlled Area
SUNY	State University of New York
SWC	State Watch Center
TEDE	Total Effective Dose Equivalent
TLD	Thermoluminescent Dosimeter
TSC	Technical Support Center
TSG	Technical Support Guidelines

ENTERGY NUCLEAR OPERATIONS, INC.
JAMES A. FITZPATRICK NUCLEAR POWER PLANT

EMERGENCY PLAN VOLUME 1

SCOPE AND APPLICABILITY

SECTION 2

APPROVED BY: Scott McAllister/ DATE: _____
Director Regulatory and Performance Improvement

APPROVED BY: J.D. Jones / DATE: _____
Responsible Procedure Owner

EFFECTIVE DATE: _____

OSRC MEETING NO. _____ DATE: _____

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*	INFORMATIONAL USE	*	QUALITY RELATED
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*	ADMINISTRATIVE	*	
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PERIODIC REVIEW DUE DATE: Feb 2016

Rev. 27-PENDING

REVISION SUMMARY PAGE

REV. NO.

CHANGE AND REASON FOR CHANGE

~~27~~ FULL REVISION

- ~~1. Section 2.3: updated numbers and descriptive information to reflect 2014 population information.~~
- ~~2. Figure 2.4 Page 2-8: updated numbers to reflect 2014 population estimates.~~
- ~~3. Figure 2.4 Page 2-9: updated to 2014 population numbers.~~

PENDING

Section 2.1: updated for permanent cessation of operations

SECTION 2
SCOPE AND APPLICABILITY

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SECTION 2

SCOPE AND APPLICABILITY

2.0 SCOPE AND APPLICABILITY

2.1 Description of the Plant and Site

The James A. FitzPatrick Nuclear Power Plant (JAFNPP) ~~is a single unit electric power generating plant equipped with a boiling water reactor rated at approximately 2536 megawatts thermal with a net electrical output of approximately 850 megawatts.~~ ceased power operations and is permanently defueled in accordance with 10 CFR 50.82(a)(1)(i) and (ii).

The plant's principal components are a nuclear steam generating system, a turbine generator unit, 345 kv and 115 kv switchyards, lake water pumping facilities complete with intake and discharge structures, and other auxiliary equipment. On November 18, 2015 ENO submitted a notification of permanent cessation of power operations pursuant to 10 CFR 50.82(a)(1)(i). ENO has submitted written certification to the NRC in accordance with 10 CFR 50.82(1) that meets the requirements of 10 CFR 50.4(b)(9) certifying that fuel has been permanently removed from the reactor vessel. Upon docketing of these certifications, the 10 CFR Part 50 license for JAF no longer authorizes operation of the reactor or emplacement or retention of fuel into the reactor vessel, as specified in 10 CFR 50.82(a)(2).

With irradiated fuel being stored in the Spent Fuel Pool and the ISFSI, the reactor, reactor coolant system and secondary systems are no longer in operation and have no function related to the storage of the irradiated fuel. Therefore, the postulated accidents involving failure or malfunction of the reactor and reactor coolant system or secondary systems are no longer applicable.

The plant consists of five principal buildings interconnected to form one structure approximately 640 feet long and 250 feet wide. These buildings are the turbine building, the reactor building, the radwaste building, the pump house and screen well building, and the administrative building. There is a 385 ft. high stack located approximately 400 feet south of the plant. The 345 kV and 115 kV switchyards are approximately 200 feet west of the plant. Figure 2.1 shows a map of the site. The plant buildings and switchyards use approximately one percent of the total site area. About 600 acres of the site has been left in its natural condition.

The plant site is on the shore of Lake Ontario in the town of Scriba, Oswego County, New York. The plant is located adjacent to and east of the Nine Mile Point Nuclear Station

(NMPNS) which is operated by another Corporation. Figure 2.5 shows a map of the combined NMPNS/JAFNPP Site. Exclusion distances for the NMPNS/JAFNPP site are 3,000 feet to the east, over a mile to the west and approximately one and one-half miles to the southern site boundary. Markers have been placed in Lake Ontario denoting an exclusion distance north of the plant site. These markers are removed prior to the onset of the winter season. For the purpose of off-site emergency planning, the NMPNS/JAFNPP sites are considered to be one exclusion area. This exclusion area may also be referred to as the site boundary or combined owner controlled areas.

2.2 Emergency Planning Zones

There are two Emergency Planning Zones (EPZ). The first is the Plume Exposure Pathway Emergency Planning Zone which is an area approximately 10 miles in radius around the JAFNPP (see Figure 2.2), for which detailed emergency planning consideration of the plume exposure pathway has been given to ensure prompt and effective protective actions for the public. The second is the Ingestion Exposure Pathway Emergency Planning Zone which is an area approximately 50 miles in radius around the JAFNPP (see Figure 2.3), for which emergency planning consideration of the ingestion exposure pathway has been given to ensure effective protective measures for the public.

The area within 10 miles of the James A. FitzPatrick Nuclear Power Plant is located on Lake Ontario and in Oswego County.

Oswego County is predominantly rural in nature with the majority of its total land acres consisting of woodland, wetlands and inactive agricultural land. Although active agricultural lands account for only a small part of the total land acres, agriculture is the major land use in the county. In recent years, there has been a trend toward fewer farms and increased residences in low density areas.

Available statistics indicate that the area surrounding the site is primarily woodland with some active agricultural land. The major agricultural activity in Oswego County is dairy, accounting for the greatest percentage of the value of all farm products produced in the county. The major harvested crops are hay, alfalfa, and corn. The major livestock animals are cattle.

The industrial activities within 10 miles of the site are confined principally to the city of Oswego and the community of Scriba, with little industry in the outlying communities of Minetto, Volney, and Mexico. One facility in the immediate area is the NOVELIS manufacturing plant which is located approximately three miles southwest of the site on Route 1. An electrical generating facility has been constructed adjacent to the NOVELIS manufacturing plant.

The public institutions, aside from the schools and churches, within the 10 mile Plume Exposure EPZ of the site are a hospital and a college in the city of Oswego. There are no public institutions within five miles of the site.

A detailed listing of special facilities in Oswego County within the 10 mile Plume Exposure EPZ is presented in the "Oswego County Radiological Emergency Response Plan."

2.3 Population

The total 2014 population of the plume exposure pathway EPZ is 41,443. (This data is from 2010 census data as updated in 2014 and is discussed in Appendix K of the Emergency Plan.) The population density of the immediate area surrounding the site is quite low, with the exception of the city of Oswego whose population in 2014 was 18,185 and the Village of Mexico, located approximately nine miles from the site, which contains about 1,598 residents. According to the 2011 Residence Census performed for the Radiological Environmental Monitoring Program, the nearest permanent resident is on Lake Road, about 0.7 miles east-southeast of the plant. The population distribution within 10 miles of the site is presented in Figure 2.4.

2.4 Scope

This JAFNPP Emergency Plan provides guidance for response to both on site and off site emergency situations. The plan provides responses to all levels of emergencies that have an actual or potential degradation of the level of safety at JAFNPP, including hostile action. To this end, this plan has been prepared in general accordance with NUREG-0654/FEMA-REP-1, Revision 1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants, November 1980.

This plan presents the organization and emergency response activities that will be performed to provide an organized response to an accident. Detailed actions are described in the Emergency Plan Implementing Procedures. Inter-relationships of this plan with procedures, other plans and emergency arrangements include:

- A. Detailed actions to be taken by plant personnel in response to emergency conditions are described in Emergency Plan Implementing Procedures. A listing of JAFNPP Emergency Plan Implementing Procedures is contained in Appendix A.
- B. Plant Operating Procedures are coordinated with the Emergency Plan and Implementing Procedures to ensure appropriate actions are taken on a timely basis.

- C. The JAFNPP Radiation Protection Procedures define such areas as radiological controls and precautions, personnel decontamination and instructions for health physics activities. These instructions are implemented on a routine basis and may be used during emergency situations as necessary. Specific Implementing Procedures, such as those necessary for emergency radiological surveys, are included in the Emergency Plan Implementing Procedures.
- D. The JAFNPP Security and Safeguards Plans and Implementing Procedures and the Emergency Plan and Implementing Procedures are coordinated to ensure compatibility. The Oswego County Radiological Emergency Preparedness Plan and the New York State Radiological Emergency Plan, in conjunction with this Plan and Implementing Procedures, provide for early and redundant notification schemes, continual assessment and update, and the initiation of protective actions.
- E. The concept of JAF emergency operations and its relationship to the Federal, State, County and private organizations is described in Section 5.0 and 6.0. A block diagram which illustrates these interrelationships is included in Figure 5.1.

2.5 Figures, Forms and Attachments

Figure 2.1 JAFNPP Fenced Area Map

Figure 2.2 Plume Emergency Planning Zone (10 Mile Radius)

Figure 2.3 Ingestion Emergency Planning Zone (50 Mile Radius)

Figure 2.4 Population Distribution by Emergency Response Planning Area

Figure 2.5 Combined NMPNS/JAFNPP Site Map

Figure 2.1

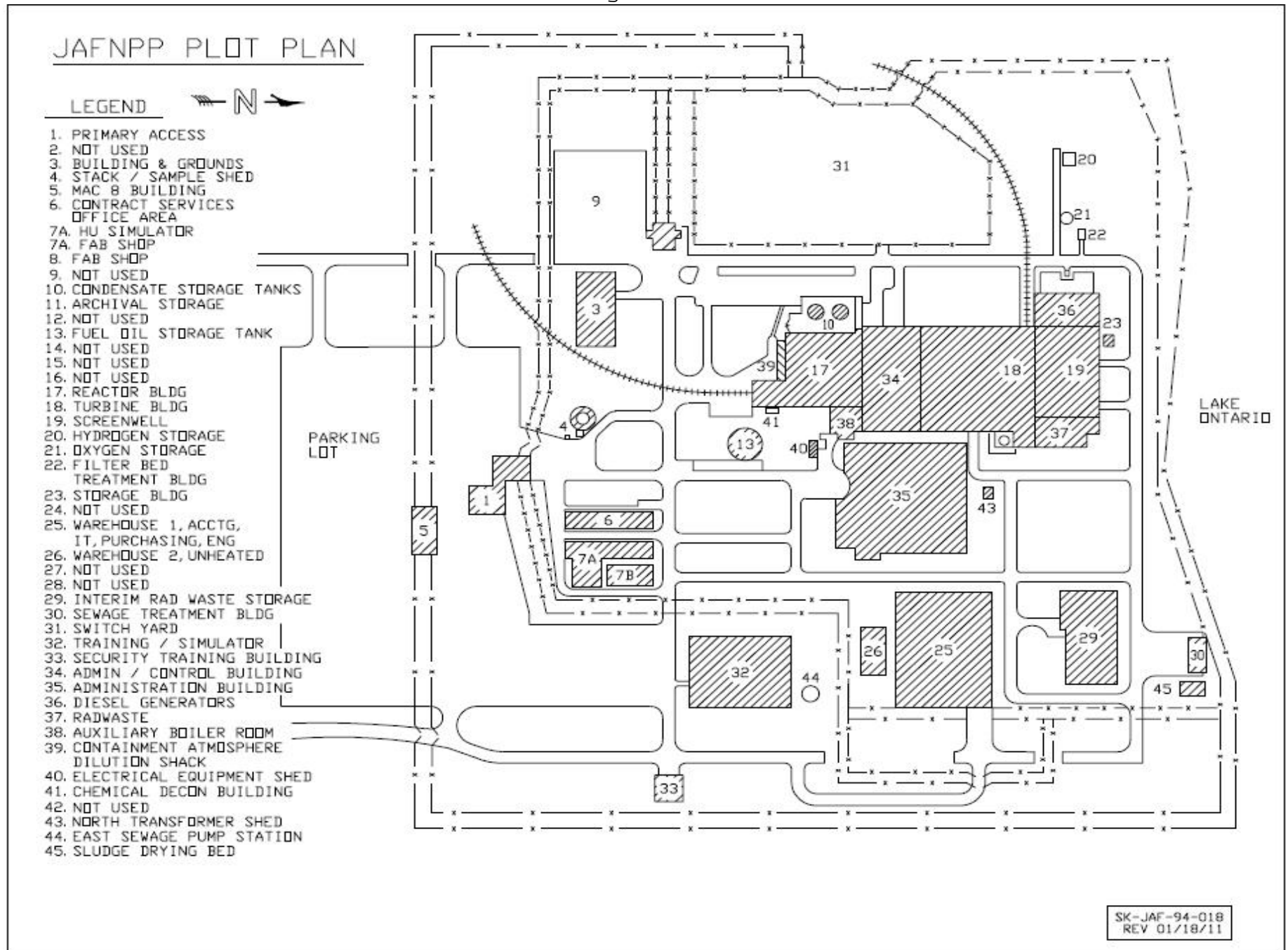


Figure 2.2

**This page is a large map and can be viewed in
JAF Merlin Database.**

To search for the map do the following in Merlin:

- 1.) Log onto Merlin Reference Library
- 2.) Double click General Records (on left menu), a search box opens to the right.
- 3.) Click the arrow to the right of the Document Type field, from the list select Emergency Plan Maps
- 4.) In the Document ID field type Section 2
- 5.) Click the search button located at the bottom left
- 6.) Double click to view the record that displays in the search results screen
- 7.) The map will appear in Adobe Reader

NOTE: Reference to locate Map in Emergency Planning Dept. efiles.
G:\EPlan Procedures\Emergency Plan Maps and Figures\MAP 1-
Rev-1 - Plume
(Map Number 1) Ten mile Emergency Planning Zone (Plume
Exposure Pathway)

Figure 2.3

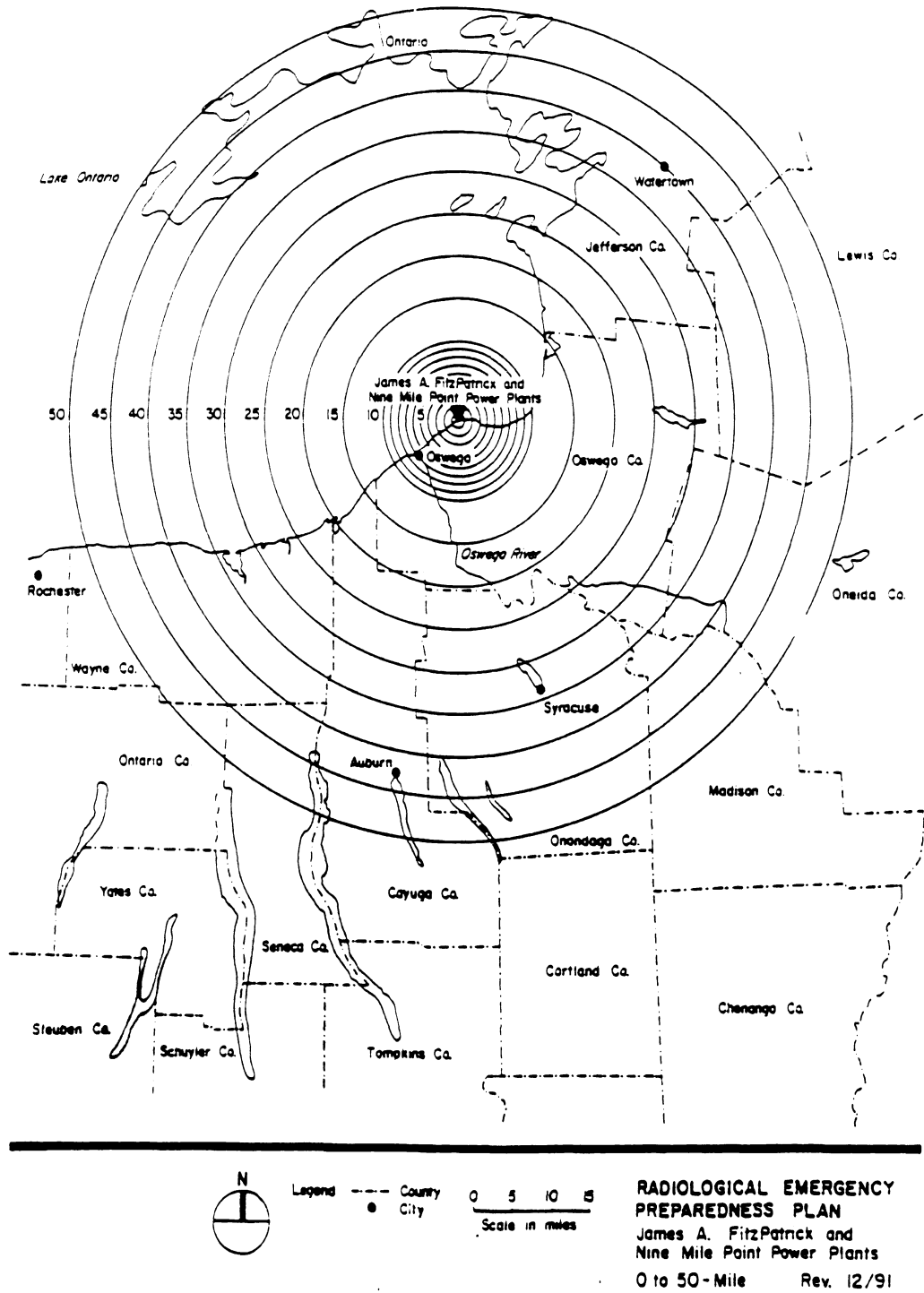
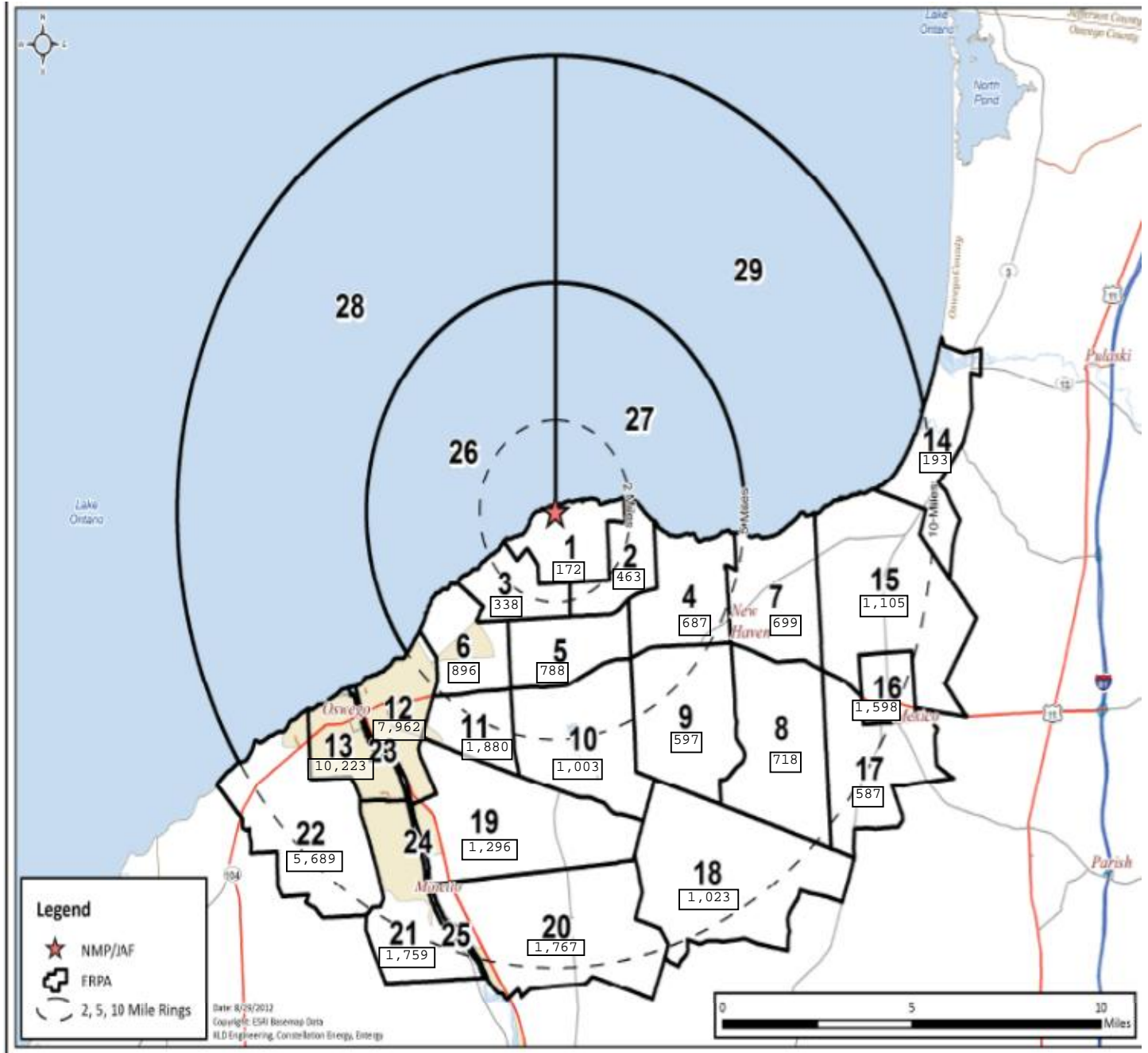


Figure 2.4



LEGEND 1 ERPA NUMBER

1721 ERPA POPULATION

**2014 Population Estimates
Emergency Response
Planning Areas (ERPAs)**

**J.A. FitzPatrick/Nine Mile Point
Radiological Emergency Response
Plan and Procedures**

Figure 2.4 (continued)

2014 PERMANENT RESIDENT POPULATION ESTIMATES

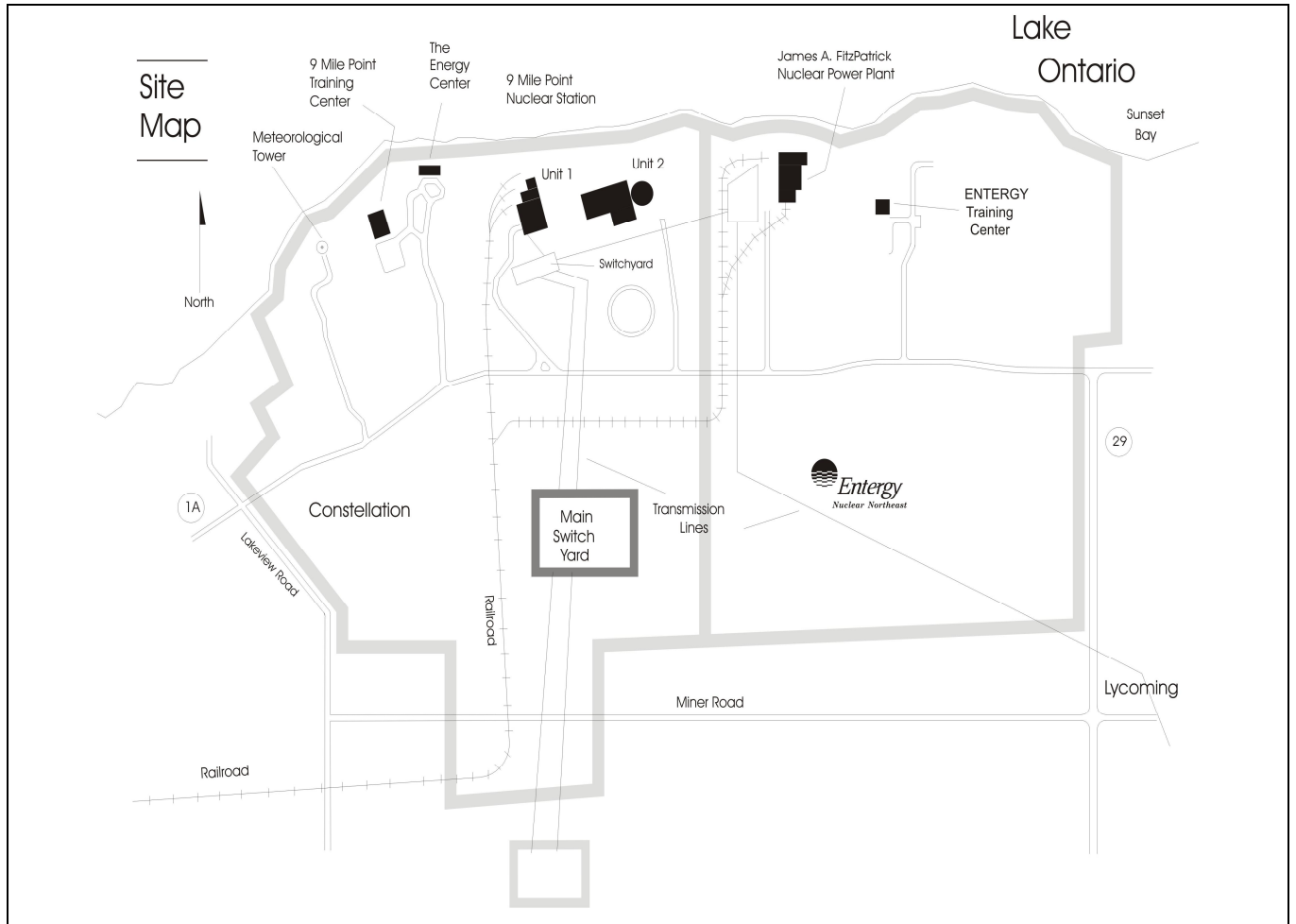
EMERGENCY RESPONSE PLANNING AREAS

<u>EMERGENCY RESPONSE PLANNING AREA</u>	<u>2014 PERMANENT RESIDENT POPULATION ESTIMATES</u>
1	172
2	463
3	338
4	687
5	788
6	896
7	699
8	718
9	597
10	1,003
11	1,880
12	7,962
13	10,223
14	193
15	1,105
16	1,598
17	587
18	1,023
19	1,296
20	1,767
21	1,759
22	<u>5,689</u>
	TOTAL 41,443

Source: 2014 census data.

Figure 2.5

Combined NMPNS / JAFNPP Site Map



ENERGY NUCLEAR OPERATIONS, INC.
JAMES A. FITZPATRICK NUCLEAR POWER PLANT
EMERGENCY PLAN IMPLEMENTING PROCEDURE

EMERGENCY PLAN VOLUME 1

EMERGENCY CONDITIONS

SECTION 4

APPROVED BY: _____

Director, Regulatory and Performance Improvement DATE

APPROVED BY: _____

Responsible Procedure Owner DATE

EFFECTIVE DATE: _____

OSRC MEETING NO. _____ DATE _____

*****		*****	
*		*	
*	INFORMATIONAL USE	*	QUALITY RELATED
*		*	
*****		*****	

*		*	
*	ADMINISTRATIVE	*	
*		*	

PERIODIC REVIEW DUE DATE: FEBRUARY 2016

Rev. No. 27—PENDING

REVISION SUMMARY PAGE

REV. NO. CHANGE AND REASON FOR CHANGE

~~27—FULL REVISION~~

~~The reasons for the changes in this procedure are (1) Transition to the fleet standard ERO which removes several ERO positions from the ERO structure (2) eliminating command functions from the TSC (emergency classification and declaration, offsite notifications, protective action recommendation development and other Emergency Director related duties) (3) editorial changes for the correction of grammar, spelling and punctuation.~~

- ~~1. Change section 4.1.2 at the top of page 4-3 to remove reference to the EOF as a facility that may be deactivated at an Alert. The JIC remains as the sole facility that may be deactivated at an Alert. This change aligns with the removal of classification, offsite notification, dose assessment and PAR activities from the TSC. Also corrected sentence structure and format in the paragraph by adding the word "authorities" for state and county discussion prior to activation and insertion of a paragraph break.~~

PENDING

Section 4.2: Updated for permanent cessation of power operations.

SECTION 4
EMERGENCY CONDITIONS
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SECTION 4
EMERGENCY CONDITIONS

4.0 **EMERGENCY CONDITIONS**

4.1 Classification System

This plan and its associated implementing procedures provide the means for responding to a wide range of emergency conditions.

NOTE: As used in the following paragraph, "plant operator" means any member of the plant staff, who by virtue of training and experience, is qualified to assess the indications or reports for validity and to compare the same to the EALs in the emergency classification scheme.

JAFNPP maintains the capability to assess, classify, and declare an emergency condition within 15 minutes after the availability of indications to plant operators that an emergency action level has been exceeded and shall promptly declare the emergency condition as soon as possible following identification of the appropriate emergency classification level.

These emergency conditions have been categorized into four emergency classes, which cover the spectrum of postulated accidents. The classification system used in this plan has been developed based on the guidance contained in NEI 99-01 Rev. 5, "Methodology for Development of Emergency Action Levels" and NRC Bulletin 2005-02 "Emergency Preparedness and Security Related Events" and is compatible with the systems used by county and state agencies.

Emergency conditions will be evaluated using Implementing Procedure IAP-2, Classification of Emergency Conditions. That procedure contains event categories, initiating conditions, and emergency action levels for each of the four emergency classes. The emergency action levels are specific plant conditions, instrument readings, alarms, or other conditions that indicate that an abnormal condition exists which warrants the declaration of an emergency and implementation of the emergency plan.

The purpose of the emergency classification system is to initiate a planned response to a given severity of accident. JAFNPP, county, and state plans and implementing procedures provide for specific emergency organization, notification, emergency facility activation, and preliminary actions to be taken based on the level of emergency that is declared.

As the emergency situation changes, the emergency class will be reviewed and revised in accordance with IAP-2. This allows for the augmentation of emergency personnel and resources to respond to a more severe emergency and provides for an orderly close out of the emergency and entry into recovery operations once the situation has been controlled.

Facility activation may be modified by the Emergency Director if the safety of incoming personnel may be jeopardized by a security event or other event hazardous to incoming personnel.

4.1.1 Unusual Event

This class applies to an unusual plant condition, which either has occurred or is impending. This plant condition could eventually lead to a potential degradation in overall safety or indicate a security threat to facility protection. Inherently, however, this is a situation in which sufficient time is available to take precautionary and constructive steps to prevent a more serious event or to mitigate any consequences that may occur.

The primary purpose for this class is to ensure that the plant operating staff recognizes initiating conditions, takes appropriate action such as assessment and verification, and comes to a state of readiness to respond if the condition becomes more severe. The Unusual Event class requires that off site authorities be notified of the event.

No protective actions will be recommended to state and county authorities for an Unusual Event and no offsite agency response is required. The TSC, OSC, or other facilities may be activated as a precautionary measure, or to assist as needed.

4.1.2 Alert

An Alert emergency class is declared when events are in process or have occurred which involve an actual or potential substantial degradation of the level of plant safety or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of intentional malicious dedicated efforts of HOSTILE ACTIONS. Although the potential for limited releases of radioactivity in excess of technical specification limits may exist, the initial assessment leading to this class indicates that it is unlikely that a public hazard will be created. An Alert requires response by the plant emergency organization, augmentation of on site emergency resources and constitutes the lowest level where emergency off site response may be required.

The declaration of an Alert results in the activation of the Technical Support Center (TSC), Emergency Operations Facility (EOF), Operational Support Center (OSC) and the Joint Information Center (JIC). The JIC may be declared operational prior to a Site Area Emergency at the discretion of the JIC Director, or designee. Also prompt initial and follow-up notification is provided to federal, state, and local authorities.

At the Alert classification, the JIC may be deactivated at the discretion of the Emergency Director if operation is not necessary based upon conditions or events. (This decision should be discussed with State and County authorities prior to deactivation of the JIC.)

Although initial and follow-up notification to state and county authorities will include projected off site exposures, if applicable, no protective actions will be recommended to those authorities since the exposures possible during an Alert are below the Protective Action Guides (PAG).

4.1.3 Site Area Emergency

The Site Area Emergency class is declared when events are in process or have occurred which involve actual or probable major failures of plant functions needed for protection of the public or security events that result in intentional damage because of intentional malicious dedicated efforts of HOSTILE ACTIONS; (1) towards site personnel or equipment that could lead to the likely failure of or; (2) prevents effective access to equipment needed for the protection of the public. Many events within this class constitute an actual or clear potential for significant releases of radioactive material to the environment. These releases, however, are not normally in excess of the PAGs.

The Technical Support Center (TSC), Operational Support Center (OSC), Emergency Operations Facility (EOF) and Joint Information Center will be activated for a Site Area Emergency.

The declaration of a Site Area Emergency requires the notification of federal, state, and county authorities so that they may activate their emergency operation centers and dispatch key emergency personnel.

4.1.4 General Emergency

The General Emergency class is declared when events are in process or have occurred which involve actual or imminent substantial core degradation or melting with the potential for loss of containment integrity and significant releases of radioactivity to the environment or security events that result in an actual loss of physical control of the facility.

The Technical Support Center (TSC), Operational Support Center (OSC), Emergency Operations Facility (EOF), and Joint Information Center will be activated for a General Emergency.

The declaration of a General Emergency requires the notification of federal, state, and county authorities so that they may activate their emergency operating centers and dispatch key emergency personnel.

A General Emergency involves the potential or actual release of airborne radioactivity which may result in off site projected exposures that would exceed the limits specified in the USEPA Protective Action Guides. The Emergency Director will recommend protective actions to state and county authorities based on actual measurements, projections, or calculations.

It is the responsibility of state and county authorities to implement off site protective actions and to provide an independent determination of the type and extent of such actions.

4.2 Spectrum of Postulated Accidents

The Emergency Action Levels contained in IAP-2 Classification of Emergency Conditions provide the ability for classifying approximately eighty discrete types and levels of events. However, in order to develop the maximum projected exposure information contained in Figure 4.2, it was necessary to evaluate several discrete accidents. The discrete accidents ~~addressed in this section~~ are those which are defined in the JAFNPP FSAR Update as "design basis accidents."

With irradiated fuel being stored in the Spent Fuel Pool and the ISFSI, the reactor, reactor coolant system and secondary systems are no longer in operation and have no function related to the storage of the irradiated fuel. Therefore, the postulated accidents involving failure or malfunction of the reactor and reactor coolant system or secondary systems are not applicable in the permanently shutdown and defueled condition.

~~4.2.1 Control Rod Drop Accident~~

~~An accident that results in radioactive material release from the fuel with the Reactor Coolant Pressure Boundary, Primary Containment and Secondary Containment intact.~~

~~As an example, this accident is postulated to occur with the reactor in hot standby, critical condition, and is expected to result in the failure of about 330 fuel rods. With the elimination of the automatic closure of the Main Steam Isolation Valves (MSIVs) on high radiation fission products will be transported to the offgas system and subsequently out the stack. The whole body dose at the site boundary is detailed in the JAFNPP FSAR.~~

~~4.2.2 Refueling Accident~~

~~An accident that results in radioactive material release directly to the Secondary Containment with the Primary Containment not intact.~~

~~As an example, this accident is postulated to occur with the reactor in shutdown condition with the vessel head removed. A fuel assembly is assumed to drop onto the top of the core, resulting in the failure of about 440 fuel rods. The refueling floor ventilation radiation monitoring system alarms, isolates the ventilation system, and starts operation of the Standby Gas Treatment System (SGTS), within about one minute.~~

~~Noble gases and radioiodines are released to the reactor coolant, migrate to the secondary containment, and are released to the environment through the SGTS.~~

~~4.2.3 Main Steam Line Break~~

~~An accident that results in radioactive material releases outside the Secondary Containment.~~

~~As an example, this accident is postulated to occur with the reactor operating at rated conditions. The steam line break occurs outside the secondary containment and releases reactor coolant for a period no longer than 10.5 seconds, until complete closure of the MSIVs. Noble gases and radioiodines in the coolant are assumed to be released directly to the environment.~~

~~An estimate of the resultant exposures as shown in Figure 4.2 is for worst case conditions. Actual exposures are proportional to the fission product activity in the steam, as monitored by the off gas release rate prior to the accident. The exposures in Figure 4.2 are based on the assumption that the off gas release rate is at the upper limiting condition for operation.~~

~~4.2.4 Loss of Coolant Accident (LOCA)~~

~~An accident that results in radioactive material release directly to the Primary Containment.~~

~~As an example, this accident is postulated to involve a complete circumferential break of a recirculating loop pipe inside the primary containment with the reactor operating at full power. The accident results in the release of a significant quantity of fission products into the primary containment, leakage into the secondary containment, and release to the environment through the SGTs.~~

~~4.2.5 Other Accident Types~~

~~Additional accident types have been included for the purposes of dose assessment. The types allow for the variability of isotopic mixtures and, by pre-establishing isotopic mixtures and developing a ratio of containment to atmosphere leakage, allow for simplified use. These include accidents "Containment Design Basis Accident" and "Severe Accident."~~

4.3 Figures, Forms, and Attachments

Figure 4.1 Recommended Protective Actions for the General Population and Emergency Workers

Figure 4.2 Maximum Estimated Doses Resulting From Design Basis Accidents

FIGURE 4.1
RECOMMENDED PROTECTIVE ACTIONS FOR THE GENERAL
POPULATION AND EMERGENCY WORKERS

PAGs for the Early Phase of a Nuclear Incident

Protective Action	PAG (projected dose)	Comments
Evacuation(or sheltering ^a)	1 - 5 rem ^b	Evacuation (or, for some situations, sheltering ^a) should normally be initiated at 1 rem.
Administration of stable iodine	5 rem ^c	Per local and State upon declaration of a GE

^aSheltering may be the preferred protective action when it will provide protection equal to or greater than evacuation, based on consideration of factors such as source term characteristics, and temporal or other site-specific conditions.

^bThe sum of the effective dose equivalent resulting from exposure to external sources and the committed effective dose equivalent incurred from all significant inhalation pathways during the early phase. Committed dose equivalents to the thyroid and to the skin may be 5 and 50 times larger, respectively. Reference: Manual of Protective Action Guides and Protective Actions for Nuclear Incidents, EPA-400-R-02-001, May 1992.

^cCommitted dose equivalent to the child thyroid from radioiodine, per "Implementation of the Use of Potassium Iodide (KI) as a Protective Agent for the Public", Rev. 1 January 2005.

Guidance on Dose Limits for Workers Performing Emergency Services

Dose Limit ^a (rem)	Activity	Condition
5	All	
10	Protecting valuable property	Lower dose not practicable
25	Life saving or protection of large populations	Lower dose not practicable
>25	Life saving or protection of large populations	Only on a voluntary basis to persons fully aware of the risks involved

^aSum of external effective dose equivalent and committed effective dose equivalent to non-pregnant adults from exposure and intake during an emergency situation. Workers performing services during emergencies should limit dose to the lens of the eye to three times the listed value and doses to any other organ (including skin and body extremities) to ten times the listed value. These limits apply to all doses from an incident, except those received in unrestricted areas as members of the public during the intermediate phase of the incident.

FIGURE 4.2
MAXIMUM ESTIMATED DOSES RESULTING FROM
DESIGN BASIS ACCIDENTS

	Maximum Estimated Dose (rem)			
	Whole Body		Thyroid	
Postulated Accident	0-2 Hours 3000 Feet	0-30 Days 3.4 Miles	0-2 Hours 3000 Feet	0-30 Days 3.4 Miles
Control Rod Drop	0.0142	0.0049	0.201	0.137
Refueling	20.26540 TEDE	0.029670 TEDE	—	—
Main Steam Line Break	0.0906	0.0111	7.14	0.799
Loss of Coolant	2.34	1.89	62.2	68.7

~~Estimated doses taken from Chapter 14 of the JAFNPP FSAR~~
Estimated doses taken from JAF-CALC-RAD-04410 Rev. 1, Fuel Handling Accident -
AST Analysis for Relaxation of Secondary Containment Operability

ENTERGY NUCLEAR OPERATIONS, INC.
JAMES A. FITZPATRICK NUCLEAR POWER PLANT

EMERGENCY PLAN VOLUME 1

ORGANIZATION

SECTION 5

~~APPROVED BY: _____~~
~~Director, Regulatory and Performance Improvement Date~~

~~APPROVED BY: _____~~
~~Responsible Procedure Owner Date~~

EFFECTIVE DATE: _____

~~OSRC MEETING NO. _____ DATE _____~~

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* INFORMATIONAL USE *	* QUALITY RELATED *
*****	*****

* ADMINISTRATIVE *	

PERIODIC REVIEW DUE DATE: MARCH 2016

Rev. No. 50—PENDING

REVISION SUMMARY PAGE

~~FULL REVISION 50~~

~~Section 5.1 — replaced AP 01.05, Plant Organization and Responsibilities, with EN OP 115, Conduct of Operations~~

~~Section 5.1 — change RP to Radiation Protection~~

~~Section 5.1 — change — Nuclear Plant Operators (NPO) from 5 to 6 and add statement "covers Fire Brigade member, AOP 43 and E-Plan Communicator requirements"~~

~~Section 5.1 — remove 1 Additional Fire Brigade qualified person because Nuclear Plant Operators are covering this position.~~

~~Section 5.1 — remove wording "at other times" because it is desired to leave various operations staffing configurations to the detail in the reference documents.~~

~~Section 5.1 — Move Security Personnel to the bottom of the list and add a () in the column where a number would go to clarify the change.~~

~~Notes Table 5-1 H — remove "and one additional Fire Brigade qualified individual" and change 3 to 4 NPO's because Nuclear Plant Operators are covering that position.~~

PENDING

Section 5.1: Updated for permanent cessation of power operations

Section 5.3: Updated for permanent cessation of power operations

Section 5.3.3: Deleted

Section 5.3.5: Deleted

Figure 5-1: Changed title to DEFUELED EMERGENCY ORGANIZATION INTERFACE

Figure 5-2: Changed title to DEFUELED EMERGENCY STAFFING ON SHIFT RESPONSE ORGANIZATION

Table 5-1: Updated for permanent cessation of power operations

Notes for Table 5-1: Updated for permanent cessation of power operations

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5.0 ORGANIZATIONAL CONTROL OF EMERGENCIES

JAFNPP has established an emergency response organization to respond to hostile actions and radiological emergencies. That organization includes on-shift personnel, additional plant personnel who may be offsite, other JAFNPP personnel, local services support, and private organizations support. The interfaces among the various emergency organizations are shown in Figure 5-1. The following sections describe in detail the JAFNPP plant and corporate organization and identify the interaction of the total emergency response organization.

5.1 ~~Normal Operation~~Permanently Defueled Organization

The James A FitzPatrick Nuclear Power Plant (JAFNPP) organization for permanently defueled operation is described in the EN-OP-115, Conduct of Operations EPIPs, which is consistent with the JAFNPP - specific Post-Shutdown On Shift Staffing Analysis conducted ~~October 2013~~January 2016. The typical minimum shift crew consists of:

- 1 Shift Manager ~~(SRO)~~
- 1 Control Room Supervisor ~~(SRO)~~ /Certified Fuel Handler (CFH)
- ~~1 Field Support Supervisor (FSS) / Shift Technical Advisor (STA)*~~
- ~~3 Senior Nuclear Operator (RO)~~
- ~~63 Nuclear Plant Operators (NPO) / Non-Certified Operators (NCO) - covers Fire Brigade member, AOP 43 and E Plan Communicator requirements~~
- 1 Radiation Protection Technician Specialist (Health Physics)
- 2 Fire Brigade qualified individuals*
- ~~1 Chemistry Technician~~
- Security Personnel in accordance with Security Plan

* (STA responsibilities may lie with a different member of the Control Room staff. The STA function is not required in modes 4 and 5.) The Fire Brigade complement will consist of the three NPOs listed above and two other fire brigade qualified staff. When the Radiation Protection Specialist is designated as a member of the Fire Brigade, the on-shift staffing will consist of seven (7) personnel. During those instances when the Radiation Protection Specialist is designated as a Fire Brigade member, the minimum on-shift staff is able to cope with the analyzed events.

*

5.2 Onsite Emergency Organization

If initiating conditions exist that result in the declaration of an emergency, the Shift Manager will assume the role of Emergency Director and will be responsible for emergency direction and coordination. The ~~normal operating~~ permanently defueled organization will also assume their pre-assigned emergency response roles. This onsite emergency organization is shown in Figure 5-2. This is considered to be a short-term response organization that will be augmented within approximately one hour after call-out by additional plant personnel. The augmented emergency response positions for the onsite plant personnel are depicted in ~~FN-EP-801~~ EPIPs.

A roster of personnel qualified and assigned to these positions is maintained by Emergency Planning.

5.3 Augmented Onsite Emergency Organization

If an Alert, Site Area Emergency, or General Emergency is declared or if the minimum shift crew requires assistance during a Notice of Unusual Event (NUE) the onsite emergency organization will be augmented by additional plant personnel. The augmented emergency organization is shown in ~~EN-EP-801~~EPIPs. The augmented emergency organization shall staff and operate the TSC, OSC, EOF, and JIC (Joint Information Center) as needed within approximately one hour of the request for activation. Augmentation for an Unusual Event may consist of the entire or part of the defined organization for each facility requested, at the discretion of the Emergency Director.

Table 5-1 is included as a cross reference to NUREG-0654 B-1 staffing chart. This table describes the on-shift and augmented emergency assignments for JAFNPP staff.

As the onsite organization is augmented, the shift crew may concentrate on their shift duties or continue to assist in the emergency response roles and activate emergency facilities in accordance with the emergency class. ~~At least two individuals are designated for each emergency position.~~

JAF has designated ERO members who staff positions required to meet minimum staffing to activate the TSC, OSC, and EOF. EPIPs identify ERO positions assigned to each facility and the minimum staffing required before each facility can be declared operational. All ERO personnel are expected to respond when notified by the emergency call-in notification system.

Each of the major functional areas is headed by a coordinator who in turn reports to the Emergency Director or Emergency Plant Manager. The following sections describe the functions of each of these coordinators.

5.3.1 Emergency Director

The responsibility for emergency direction and control, emergency classification, the decision to notify and recommend offsite protective actions and commitment of corporate resources is held by the Emergency Director during the emergency or initial phase of the event. These responsibilities associated with the position are non-delegable. The JAFNPP's Policy Statement in Appendix B sets forth the responsibility and authority of the Emergency Director. The Shift Manager may act as the Emergency Director.

The Emergency Director, in conjunction with the Emergency Plant Manager, is responsible for the overall management and implementation of all onsite operations and procedures in support of the objectives of the emergency response and recovery operations. The Emergency Director has the authority to immediately and unilaterally initiate any emergency actions that plant conditions may warrant.

The Emergency Director will perform the following:

- A. Activate emergency facilities, as appropriate.
- B. Initiate the notification of emergency personnel.
- C. Direct the initiation of dose assessment and dose projection activities.
- D. Implement appropriate notifications and make protective action recommendations to offsite authorities.
- E. Implement corrective and protective actions onsite to bring the emergency under control and mitigate the consequences.
- F. Continue to reassess emergency status and take appropriate actions.
- G. Present information to be released in an accurate descriptive manner and released through approved channels.
- H. Authorize radiation exposures to emergency workers in excess of 10 CFR Part 20 limits, if required.
- I. Authorize use of Potassium Iodide (KI).
- J. Request federal assistance, if needed.
- K. Maintain (or have maintained) a log of important actions starting with the first notification of an emergency.
- L. Assign technical liaisons to the State and County Emergency Operations Center (EOCs), as appropriate.

- M. Authorize unanalyzed operation repairs and/or modifications to safety related equipment and systems, and changes that will affect Technical Specifications per 10CFR50.54(x) and (y).

Initially, the Shift Manager will assume the role of the Emergency Director. In that role he/she will ensure designated Senior Plant Management is promptly notified. He/she will retain that position until relieved of that responsibility by a qualified individual.

5.3.2 Emergency Plant Manager (EPM)

The Emergency Plant Manager, in conjunction with the Emergency Director, is responsible for the management and implementation of all onsite plant operations and procedures during an emergency. The EPM is normally located at the TSC and may perform the following:

- A. Direct the implementation of onsite corrective and protective measures, in conjunction with the ED.
- B. Assess emergency status on a periodic basis and take appropriate actions.
- C. Communicate with the ED to provide ongoing updates of onsite activities and plant status.
- D. Authorize emergency exposures and KI issuance.

~~The responsibility for control in the Technical Support Center is held by the TSC Manager.~~

~~The TSC Manager will perform the following:~~

- ~~A. Ensure the TSC is being activated in accordance with applicable procedures.~~
- ~~B. Ensure notification of emergency response organization has been made.~~
- ~~C. Assist the public information personnel in transmitting accurate information.~~
- ~~D. Direct the collection, trending and posting of relevant data.~~
- ~~E. Provide records and drawings to emergency personnel which describe, as built,~~

~~conditions and layout of station structures,
systems and components.~~

5.3.3 Lead Offsite Liaison

The Lead Offsite Liaison is typically located in the EOF and has the responsibility to assist the Emergency Director. The Lead Offsite Liaison will perform the following:

- A. Coordinate provisions for logistical support for emergency personnel.
- B. Coordinate emergency organization staffing.
- C. Provide and interpret plant information to the New York State representative in the EOF.
- D. Ensure continuity of personnel and resources (facilitated by EOF Admin & Logistics Coordinator) for 24 hour per day response is being provided.
- E. Assure procedure compliance by personnel throughout the facility.

~~Emergency Operations Facility (EOF) MThe EOF Manager is located in the EOF and will perform the following:~~

- ~~A. Assure EOF is being activated in accordance with applicable procedures.~~
- ~~B. Assign personnel to perform the following functions:~~
 - ~~• Relay Part I data via the Radiological Emergency Communications System (RECS)~~
 - ~~• Update status boards as needed~~
 - ~~• Telecopy Parts I, II, and III data as needed~~
 - ~~• Copy and distribute Parts I, II and III data within EOF~~

- ~~C. Ensure individuals and equipment are available for performing the following functions:~~
- ~~• Relaying technical data from plant~~
 - ~~• Relaying required information to offsite agencies~~
 - ~~• Dose assessment activities~~
 - ~~• Logging EOF activities~~
 - ~~• Tracking emergency facilities long term staffing~~
 - ~~• Procurement of supplies, materials and services~~
- ~~D. When the ED assumes Command and Control in the EOF, ensure Parts I, II and III forms are completed and disseminated as required.~~
- ~~E. Ensure conferences between EOF Manager and Emergency Director and other staff are conducted as needed.~~

5.3.4 Engineering Coordinator

The Engineering Coordinator is located in the TSC and will perform the following:

- ~~A. Provide technical support to the Control Room.~~
- ~~B.A. Advise the TSC Manager on technical matters.~~
- ~~C.B. Coordinate engineering tasks that may be needed to mitigate accident consequences.~~
- ~~D.C. Assist in collection, posting and dissemination of relevant data.~~

5.3.5 Maintenance Coordinator

The Maintenance Coordinator is located in the TSC and will perform the following:

- A. Direct emergency maintenance operations.
- B. Advise the Emergency Plant Manager on matters concerning emergency maintenance activities.
- C. Recommend emergency maintenance actions to mitigate the emergency situation.

- D. Direct the OSC Manager in the dispatching of in-plant teams.

5.3.6 Operations Coordinator

The Operations Coordinator is located in the TSC and will perform the following:

- A. Direct plant operational activities.
- B. Advise the Emergency Director on matters concerning plant operations.
- C. Acts as an interface between SM and the TSC.

5.3.7 Radiological Coordinators (EOF Radiological Assessment Coordinator and TSC Radiological Coordinator)

The Radiological Coordinators are located in the TSC and the EOF, and will perform the following:

- A. TSC Radiological Coordinator
 - 1. Advise the Emergency Plant Manager on RP procedure applicability in emergency situations.
 - 2. Perform onsite exposure projections/estimates.
 - 3. Direct onsite radiological surveys.
 - 4. Evaluate survey results.
 - 5. Provide technical advice to the Emergency Plant Manager concerning recommendations for onsite protective actions.
 - 6. Ensure that radiation protection equipment such as dosimetry devices, instrumentation and protective clothing is issued and controlled.

B. EOF Radiological Assessment Coordinator

1. Advise the Emergency Director on RP procedure applicability in emergency situations.
2. Perform offsite exposure projections/estimates.
3. Direct offsite radiological surveys.
4. Evaluate survey results.
5. Provide technical advice to the Emergency Director concerning recommendations for offsite protective actions.
6. Direct offsite monitoring activities in coordination with state and local agencies.
7. Ensure that radiation protection equipment such as dosimetry devices, instrumentation and protective clothing is issued and controlled.
8. Provide plant and offsite data on Attachments 1, 2, and 3 of EAP-1.1.

5.3.8 Offsite Communicator

The Offsite Communicator is located at the EOF and will perform the following:

- A. Coordinate and ensure proper notification to offsite organizations.
- B. Transmit completed Attachments 1 through 3 of EAP-1.1 to NYS, Oswego County and Corporate Headquarters on a half-hour basis or upon change in emergency classification.

5.3.9 Security Coordinator

The Security Coordinator is located at the TSC and will perform the following:

- A. Ensure plant security is maintained.
- B. Implement appropriate safeguard contingencies.
- C. Implement personnel accountability.

5.3.10 JAFNPP Representatives to the State and County EOCs

Representatives from JAFNPP or the company shall be sent to the State and County EOCs when requested and appropriate, or generally, during a Site Area or General Emergency. This individual shall act as liaison with the plant technical staff so the magnitude of the emergency can be more clearly conveyed to the EOC staffs.

5.3.11 Support and Staff Personnel

In addition to the key personnel described above, numerous support and staff personnel will participate in emergency response. These positions are listed in Figures 5-2 and ~~EN-EP-804~~EPIPs. The personnel designated to fill the emergency positions are listed on an ERO roster, maintained by Emergency Planning. Each of the persons assigned to an emergency position has received the training necessary to carry out the functions associated with that position.

The Emergency Planning Manager will work with the Training Manager, or his representative, in assigning an individual to an emergency position. The Training Manager will assure the individual receives the necessary training. Included in this group are the individuals who would be responsible for communications. These individuals have been designated communicators and appear on the augmented staffing charts.

5.4 Offsite Support Organizations

The onsite emergency organization will be augmented, if necessary, by corporate, local and private response personnel. The response of these groups is in accordance with their letters of agreement with JAFNPP (presented in Appendix C).

5.4.1 Headquarters Support

The Corporation will provide personnel from headquarters or other facilities to assist in the emergency response/recovery operations at JAFNPP. This support will be in accordance with Section 9 of this plan and Emergency Plan Implementing Procedures.

The Recovery Organization is shown in Figure 5-3 and is a site function. The Recovery Organization is under the overall direction of the Site Recovery Director. The Site Recovery Director shall be responsible for interfacing with government authorities when the focus shifts from response to recovery.

The company's Corporate Office will be notified by the plant of an emergency situation.

5.4.2 Local Services Support

The nature of an emergency may require the augmentation of onsite response groups by local services, personnel and equipment. Support from the following local organizations may be obtained:

- Oswego Hospital
- Oswego County Sheriff
- University Hospital in Syracuse
- The City of Oswego (Fire Department)
- Oswego County E-911 Center (Fire Department)

Specific methods for notification of these organizations are contained in Emergency Plan Implementing Procedures.

5.4.3 Private Organization Support

JAFNPP may obtain emergency response support from various private organizations. These organizations and the support they may provide are:

- A. Nine Mile Point Nuclear Station - Will provide use of laboratories, equipment and personnel for radiological monitoring, decontamination, backup communications, and personnel to assist in recovery operations.
- B. R.E. Ginna Nuclear Power Plant - Will provide use of laboratories, equipment and personnel for radiological monitoring, backup communications, and personnel to assist in recovery operations.
- C. General Electric - Will provide technical support and personnel.

5.5 Coordination with Participating Government Agencies

5.5.1 State and Local Agencies

This section identifies the principal state and local government agencies having action responsibilities for radiological emergencies in the vicinity of the JAFNPP. The radiological emergency response plans of these agencies describes their respective responsibilities, authorities, capabilities and emergency functions, and are included as part of this Plan. The following is a summary of the provisions for preparedness and response to radiological emergencies by each organization, as well as the primary and alternate methods of emergency notification.

A. State Office of Emergency Management (SOEM)

The SOEM is the lead state agency for offsite coordination and response. SOEM coordinates the development of radiological emergency plans. The New York State Emergency Plan received Federal approval on February 1, 1985 and is titled "New York State Radiological Emergency Preparedness Plan." See Appendix D for the locations of plan copies.

The New York State plan includes provisions for:

- Planning and coordination with local, state, Canadian and federal authorities.
- Initial response to notification by JAFNPP.
- Alert and warning of local political subdivisions.
- Evacuation and other protective measures for local populations.
- Emergency services.
- Situation analysis.
- Declaration of a "State of Emergency" and provision of state resources to support protective response actions.

The New York State plan also contains emergency procedures to notify the local organizations, which have action and/or support responsibilities under that plan.

The primary method of notification to SOEM is through the State Warning Point (SWP) via the Radiological Emergency Communication System (RECS). The SWP is located in Public Security Building #22 in Albany and is manned twenty-four hours per day. Primary and backup telephone numbers are provided. In addition, backup communications are available from JAF via radio through Oswego County to the State Warning Point.

B. Oswego County Emergency Management Office (OCEMO)

The OCEMO is the lead local government agency for coordination and response. The OCEMO emergency plan titled, "Oswego County Radiological Emergency Preparedness Plan" received Federal approval on February 1, 1985 and the locations of plan copies are contained in Appendix E.

The OCEMO plan contains provisions for:

- Notification and management to other emergency response personnel.
- Public notification and dissemination of information concerning the incident.
- Alert and warning of local officials.
- Implementation of protective response actions.

(The OCEMO Plan also contains the implementing procedures for an emergency response.)

The primary method of notification to the OCEMO is through Oswego County E-911 Center. The dispatcher is available for twenty-four hour per day communications. Backup radio communications are also available.

5.5.2 Federal Agencies

This section identifies the principal federal government agencies receiving notification of an emergency along with those that may be called on for assistance during an emergency. Typical resources available and additional information concerning Federal response is included in Appendix N "Typical Federal Support Resources."

A. U. S. Department of Energy (DOE)

The DOE, Brookhaven Area Office, will respond to requests from JAFNPP, Oswego County, and NYSDOH and provide assistance. This assistance consists of advice and emergency action essential for the control of the immediate hazards to public health and safety as specified in the letter of agreement. As part of this emergency action, DOE will supply personnel and equipment in accordance with the Federal Radiological Monitoring and Assistance Program (FRMAP).

The primary method of notification to DOE is by telephone. Notification may also be made through the NRC. Upon notification, estimated arrival time of personnel is within four (4) hours.

B. U.S. Department Of Energy (REACTS)

DOE Radiation Emergency Assistance Center/Training Site (REAC/TS) is a deployable DOE National Nuclear Security Agency (NNSA) asset, on call 24/7 to offer its expertise on managing the medical component of a radiation incident.

REAC/TS has developed an interdisciplinary radiation emergency medical response approach that integrates medicine with health physics. This enables rapid dose assessment, radiological and medical triage, diagnosis, and medical management during a radiation emergency.

REAC/TS maintains specialized response teams to ensure readiness to respond. Each team consists of a physician, nurse/paramedic, and a health physicist, all cross-trained in the details of managing a radiation emergency.

Response teams are equipped with state-of-the-art medical equipment that can be transported to the site or used in their facility in Oak Ridge, Tenn. Capabilities include:

- medical and radiological triage
- decontamination
- diethylenetriaminepentaacetic acid (DTPA) and Prussian Blue therapy for specific radiological materials
- diagnostic and prognostic assessments of radiation-induced injuries
- biological and radiological dose estimates by methods that include cytogenetic analysis, bioassay, and in vivo counting

C. Federal Emergency Management Agency (FEMA)

The Federal Emergency Management Agency has the lead responsibility for all offsite nuclear emergency planning and response. This agency is charged with establishing policy for and coordinating all civil emergency planning and assistance functions for executive agencies.

D. Nuclear Regulatory Commission (NRC)

The U. S. Nuclear Regulatory Commission is responsible for verifying that appropriate emergency plans have been implemented and for conducting investigative activities associated with a radiological emergency. An NRC Response Team will offer assistance during an emergency. Estimated time of arrival is within 3 hours. The Agency Procedures for the NRC Incident Response Plan (NUREG-0845) describes the functions of the NRC during an incident and the kinds of actions that comprise the NRC response.

5.6 Administrative and Logistics Support

During the response to a radiological emergency, it may be necessary to supplement the Company's resources and/or provide response personnel with necessary support. Arrangements for this support which includes: the means and sources for obtaining food, lodging, sanitation, office supplies, temporary offices, communications equipment, and vehicles in support of an extended or augmented emergency response. This will be made by the Company Corporate Staff.

5.7 Figures, Forms, and Attachments

FIGURE 5-1 [Defueled](#) Emergency Organization Interface

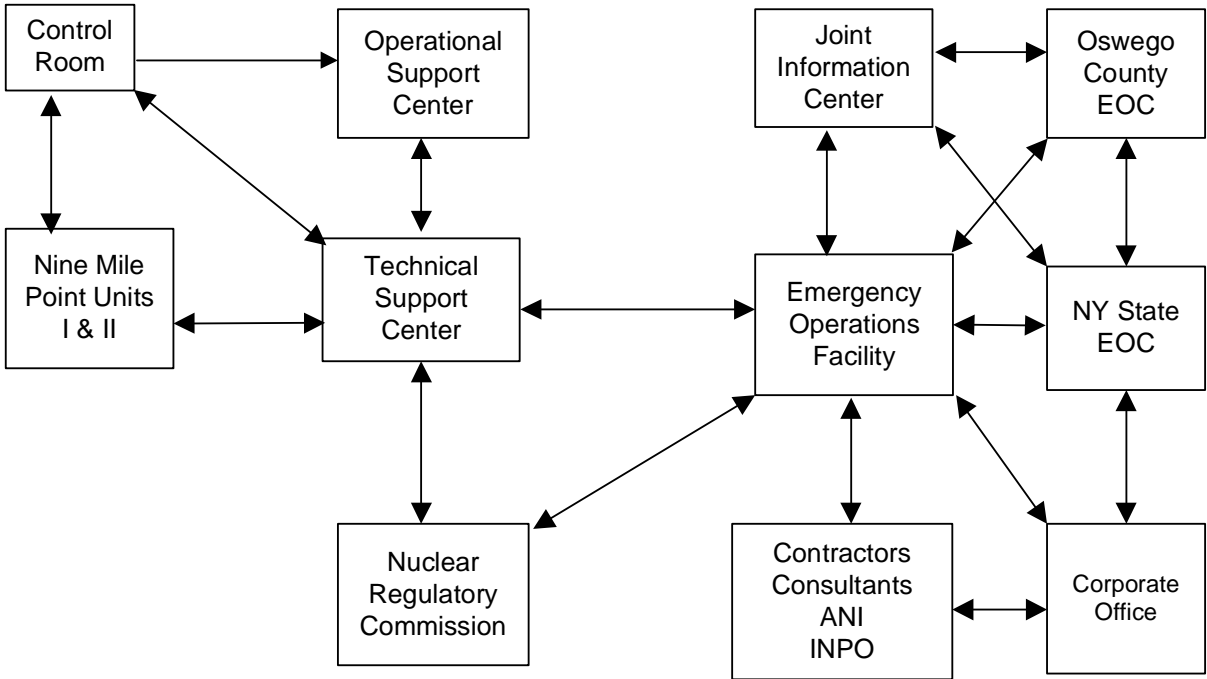
FIGURE 5-2 [J.A.F.N.P.P. Defueled](#) Emergency Staffing - On Shift Response Organization

FIGURE 5-3 Typical Recovery Organization

TABLE 5-1 Plant Personnel - Emergency Activity Assignments

NOTES FOR TABLE 5-1

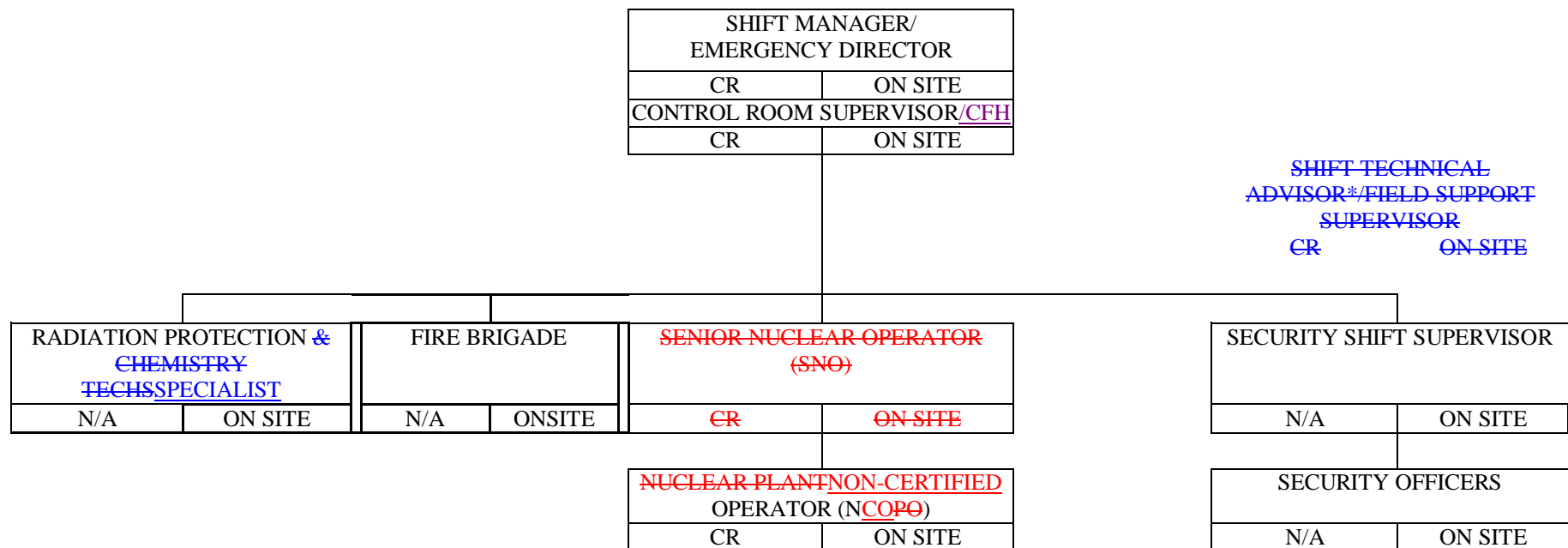
FIGURE 5-1 DEFUELED EMERGENCY ORGANIZATION INTERFACE



*J. A. FitzPatrick Nuclear Power Plant
Emergency Plan*

**Figure 5-1
Emergency Organization Interface**

FIGURE 5-2 J.A.F.N.P.P. DEFUELED EMERGENCY STAFFING ON SHIFT RESPONSE ORGANIZATION



SHIFT TECHNICAL
ADVISOR*/FIELD SUPPORT
SUPERVISOR
CR ON SITE

CODE KEY

TITLE	
OPERATIONAL LOCATION	AVAILABILITY

OPERATION KEY CODE

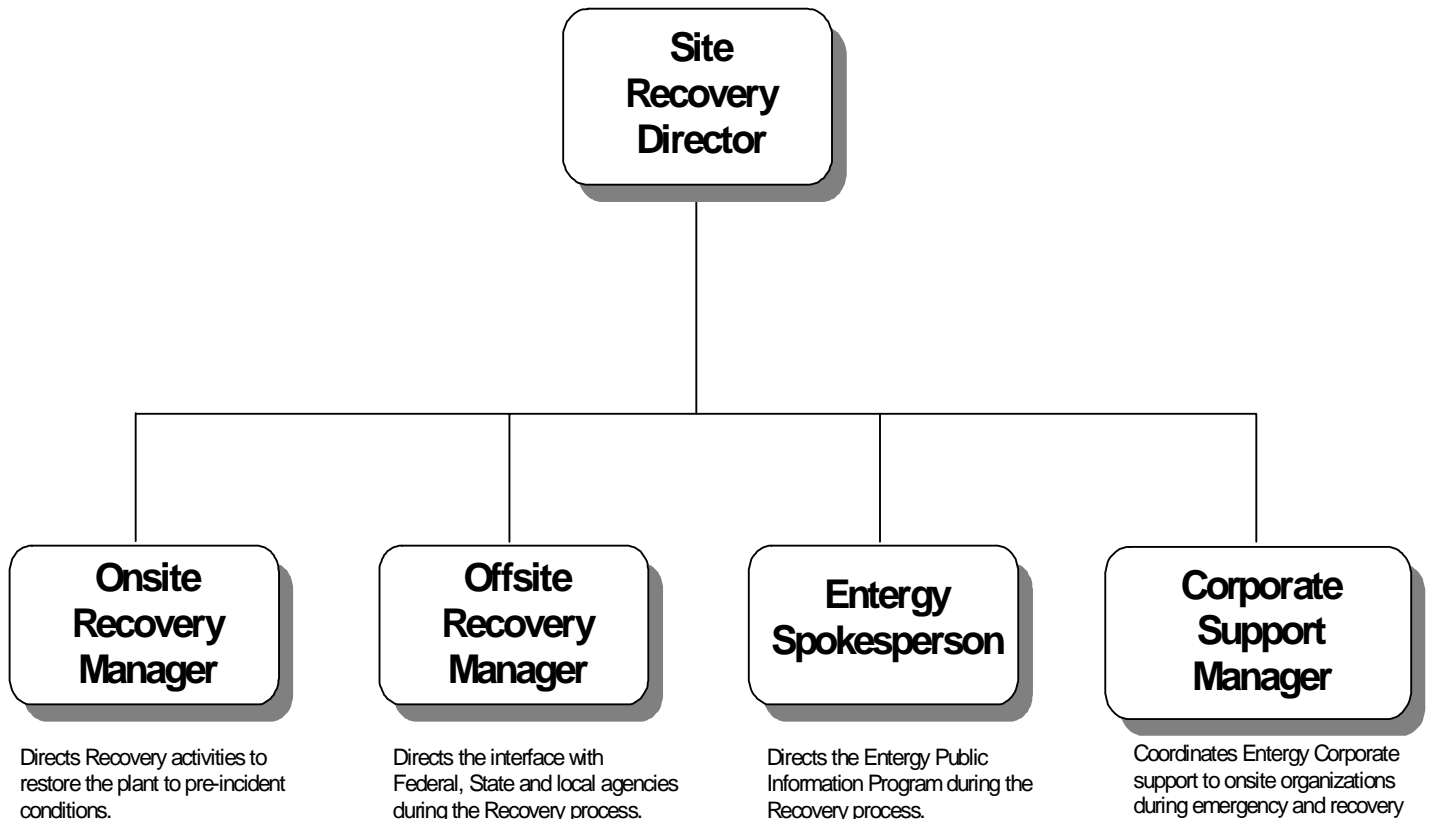
CR = CONTROL ROOM

N/A = NOT APPLICABLE

*STA not required in modes
4 and 5.

FIGURE 5-3 TYPICAL RECOVERY ORGANIZATION

TYPICAL RECOVERY ORGANIZATION



NOTES:

- (1) The Corporate Support Manager position will normally be filled by a director level manager - or designee. The Corporate Support Center Coordinator assists in coordinating in the early phases of an event.
- (2) The Site Recovery Director position will normally be filled by a qualified Emergency Director or designee.
- (3) The Onsite Recovery Manager position will normally be filled by the General Manager of Plant Operations (GMPO) or designee. The normal plant staff will support recovery activities as required. A special Radiological Controls Manager and/or Administrative and Logistics Manager may need to be appointed for events which involve severe plant damage or significant releases of radioactive materials inside or outside the plant.
- (4) The Offsite Recovery Manager position will normally be filled by the Emergency Planning Department Manager or designee.
- (5) The Company Spokesperson position will normally be filled by a member of the corporate public information group, or designee.

~~TABLE 5-1 (CONT)~~

~~PLANT PERSONNEL – EMERGENCY ACTIVITY ASSIGNMENTS~~

TABLE 5 – 1 PLANT PERSONNEL – EMERGENCY ACTIVITY ASSIGNMENTS

(IN ACCORDANCE WITH JAMES A. FITZPATRICK NUCLEAR POWER PLANT POST-SHUTDOWN ON-SHIFT STAFFING ANALYSIS-~~OCTOBER~~
JANUARY 20132016)

Major Functional Area	Major Tasks	JAFNPP Position, Title or Expertise	Number on Shift	Notes (in below table)	Number on shift required by B-1 chart	Number Available within 60 Minutes after call
Operations (Assessment of Operational Aspects)	Direct and perform actions to mitigate plant emergency conditions.	Shift Manager (SRO CFH)	1	(A)	1	-
		Control Room Supervisor (SRO) <u>Certified Fuel Handler (CFH)</u>	1	(A)	1	-
		Senior Nuclear Operator (SNO)	3		2	-
		Nuclear Plant Operator (NPO) <u>Non-Certified Operator NCO</u>	43		2	-
Emergency Director	Direct onsite emergency response.	Shift Manager Operations, General Manager Plant Operations, Director Nuclear Safety Assurance <u>Decommissioning</u> , Director Engineering & Technical, Emergency Planning Manager or Designated Alternate	1*	(B)	-	-
Notification/ Communication	Notify JAFNPP, State, local, and Federal personnel and maintain communication. Staff Notifications and Security Contacts.	<u>Control Room Supervisor/</u> <u>Certified Fuel Handler (CFH)</u> <u>Nuclear Plant Operator</u>	1*	(C)	1	2
Radiological Accident Assessment	Direct dose projection, radiological surveys, interface with State.	Radiological Protection (RP) Manager or Other RP Supervisor	0	(D)	0	2

~~TABLE 5-1 (CONT)~~
~~PLANT PERSONNEL — EMERGENCY ACTIVITY ASSIGNMENTS~~

~~TABLE 5-1 (CONT)~~

~~PLANT PERSONNEL - EMERGENCY ACTIVITY ASSIGNMENTS~~

~~TABLE 5 - 1 PLANT PERSONNEL - EMERGENCY ACTIVITY ASSIGNMENTS~~

~~(IN ACCORDANCE WITH JAMES A. FITZPATRICK NUCLEAR POWER PLANT POST-SHUTDOWN ON-SHIFT STAFFING ANALYSIS-JANUARY 2016)~~

~~(In accordance with James A. FitzPatrick Nuclear Power Plant POST-SHUTDOWN on-shift staffing analysis OCTOBER JANUARY 20132016)~~

Major Functional Area	Major Tasks	JAFNPP Position, Title or Expertise	Number on Shift	Notes (in below table)	Number on shift required by B-1 chart	Number Available within 60 Minutes after call
Radiation Protections Functions/ Radiological Surveys (Support of Operational Accident Assessment (In-Plant) Protective Actions)	Onsite (out-of-plant) survey	Offsite Monitoring Team				
	In-Plant surveys.					
	Out-of-Plant and offsite surveys.					
	Chemistry/Radiochemistry offsite surveys.	(RP) Technician <u>Specialist</u>	1		1	<u>86</u>
Radiation Protections Functions/ Radiological Surveys (Support of Operational Accident Assessment (In-Plant) Protective Actions)	Radiation Protection Access Control			(E)		
	H.P. Coverage for repair, corrective actions, search and rescue, first aid and fire fighting.	RP Technician <u>Specialist</u>	<u>10</u>		1	1
	Personnel monitoring	(RP/Chem)				
	Dosimetry					
Plant Systems Engineering	Technical Support	Shift Technical Advisor	<u>1</u>	(A)	<u>1</u>	-
		Core Thermal/Hydraulic	<u>0</u>		<u>0</u>	<u>1</u>
		Electrical Engineer	0		0	1
		Mechanical Engineer	0		0	1
Repair and Corrective Actions	Access and correct in-plant conditions.	Mechanical Maintenance	0	(F)	0	2
		Electrical Maintenance	1*	(F)	1*	2
		Instrument and Control Tech.	0	(F)	0	1
		Rad Waste Operator	1*	(G)	1*	-

~~TABLE 5-1 (CONT)~~

~~PLANT PERSONNEL – EMERGENCY ACTIVITY ASSIGNMENTS~~

TABLE 5 – 1 PLANT PERSONNEL – EMERGENCY ACTIVITY ASSIGNMENTS

(IN ACCORDANCE WITH JAMES A. FITZPATRICK NUCLEAR POWER PLANT POST-SHUTDOWN ON-SHIFT STAFFING ANALYSIS-JANUARY 2016)

Major Functional Area	Major Tasks	JAFNPP Position, Title or Expertise	Number on Shift	Notes (in below table)	Number on shift required by B-1 chart	Number Available within 60 Minutes after call
Fire Fighting/ Rescue Operations and First Aid	- Combat fires - Search & Rescue - First Aid	Plant Fire Brigade Search and Rescue Brigade First Aid Team	<u>+2*</u>	(H) (I) (J)	N/A	Local Support via Oswego County Fire Coordinator & Oswego Hospital
Site Access Control, Security and Personnel Accountability	Maintain site access, security, and perform accountability.	Security Force			Per Security Plan	

B-1 Staffing Chart Notes

* Indicates that position may be provided by shift personnel assigned other functions.

The B-1 Staffing Chart appears in NUREG-0654 “Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants”, pages 37 and 38.

NOTES FOR TABLE 5-1

- A. ~~May include a SM, CRS, or FSS as the STA. The STA is not required in modes 4 and 5.~~Deleted
- B. The Shift Manager performs the duty of the Emergency Director until relieved by a qualified individual.
- C. ~~On-shift communicator is normally a qualified NPO but may be other qualified individuals who have equivalent or higher plant operational knowledge.~~ This position is normally augmented by TSC and EOF designated communications positions when those facilities assume communications responsibilities.
- D. On-shift Radiation Protection ~~and Chemistry technician~~Specialists ~~are~~is directed by Shift Manager/Emergency Director until the arrival of RP and/or Chemistry Department supervision.
- E. RP ~~technicians~~Specialists are trained for liquid sample collection and analysis, offsite, onsite and in-plant surveys. RP ~~technicians~~Specialists are brought to the plant to supplement on-shift personnel using a call-out procedure.
- F. Emergency Mechanical, Electrical and Instrument & Control Maintenance requires call-in of applicable departmental personnel to conduct tasks. Normal operations shift personnel can conduct limited emergency mechanical, electrical and Instrument & Control work.
- G. The radwaste operator is an on-shift auxiliary operator (Nuclear Plant Operator/Non-Certified Operator).
- H. The JAFNPP Fire Brigade complement is ~~a Senior Nuclear Operator and 43~~three Nuclear Plant Operators/Non-Certified Operators and 2~~two~~ other qualified staff.
- I. The JAFNPP Search and Rescue team is composed of the JAFNPP Fire Brigade.
- J. The JAFNPP First Aid Team is composed of one member of the Operations staff, two other qualified staff, a Senior Nuclear Operator, two Nuclear Operators, and one RP ~~Technician~~Specialist.

REVISION SUMMARY PAGE

PENDING

Section 6.1: Updated for permanent cessation of power operations

Section 6.1.1: Updated for permanent cessation of power operations

Section 6.1.2: Updated for permanent cessation of power operations

Section 6.2.1: Updated for permanent cessation of power operations

Section 6.2.2.1: Updated for permanent cessation of power operations

Section 6.2.2.4: Updated for permanent cessation of power operations

Section 6.3: Updated for permanent cessation of power operations

Section 6.4.1: Updated for permanent cessation of power operations

Section 6.5.4: Changed "This contracted letter of agreement is contained in Appendix C" to "This contracted letter of agreement is listed in Appendix C".

~~FULL REVISION 36~~

#	Change	Reason
1	Global: Changed EAP 4 (including any descriptions of procedure content or purpose) with EAP 4A or EAP 4B or EAP 4C.	EAP 4 was split into EAP 4A or EAP 4B or EAP 4C.
2	Global: Changed EDAMS to URI	URI replaced EDAMS as the JAF dose assessment model

#	Change	Reason
3	<p>Step 6.2.3: Removed the description of the EDAMS dose model and replaced it with a description of the revised URI model. Specifically removed:</p> <ul style="list-style-type: none"> • This method approximates dose rates using an enhanced class a computer model (RADDose V) that account for site specific spatial and temporal variations in meteorological and atmospheric conditions, including lake breeze effects and ground or elevated releases. 	URI replaced EDAMS as the JAF dose assessment model
4	<p>6.2.3.1: Replaced the description of shift dose assessment method with proposed method (URI). Specifically removed:</p> <ul style="list-style-type: none"> • Pre-calculated threshold release rates have been determined using EDAMS, which are presented in Table 4.1.1 of EAP 4, Attachment 1 for use in initial decision-making. Affected downwind ERPAs within three 22.5 degree sectors are provided in Table 4.1.2 of EAP 4, Attachment 1 for use in determining PARs. 	URI replaced EDAMS as the JAF dose assessment model
5	<p>6.2.3.2 Replaced the description of detailed dose assessment with proposed method. Specifically removed:</p> <ul style="list-style-type: none"> • The methodology used in EAP 4, Attachment 2 is similar to the previous method with the exception that the pre-calculated release rate portion of the flowchart is replaced by the use of the EDAMS computer application. 	URI replaced EDAMS as the JAF dose assessment model

#	Change	Reason
6	<p>6.2.3.2 Removed the detailed description of the EDAMS dose assessment model. Specifically removed:</p> <ul style="list-style-type: none"> • RADDOSSE-V uses both meteorological and source term data screens patterned after familiar spreadsheet formats with full screen editing capabilities, allowing both easy data entry and the ability to review, edit, or update data entered for other time steps. 	URI replaced EDAMS as the JAF dose assessment model
7	Global: Removed reference to the NMP/JAF VAX system on which the MMS was resident.	MMS remains available but it does not originate with the VAX
8	<p>6.2.3.2: Removed description of how dose assessment model results are presented. Specifically removed:</p> <ul style="list-style-type: none"> • Program results are presented both in tabular form, selected from an output menu, and in graphic form to facilitate visualization of the overall emergency situation. 	URI replaced EDAMS as the JAF dose assessment model
9	6.2.3.2: Removed "All information presented by the program is available in an ASCII file and for output to a printer for a permanent, hardcopy record."	URI replaced EDAMS as the JAF dose assessment model

#	Change	Reason
10	6.2.3.2: Removed "RADDOSE V uses a variable trajectory, puff advection model of dispersion to predict the position of both ground level and elevated radioactive plumes. Inside the ten mile Plume Exposure Pathway (EPZ), the model uses finite cloud techniques to estimate external exposure received from the plume while the standard concentration X/Q (semi-finite) methodology is used to estimate doses received from inhalation of radioisotopes and external exposure over a four day period from material deposited on the ground. In addition, the model incorporates routines for computing total deposition and the current dose rate from radioactive material deposited on the ground out to 50 miles."	URI replaced EDAMS as the JAF dose assessment model
11	6.2.3.2: Removed accident default types	URI replaced EDAMS as the JAF dose assessment model
12	6.4.2: Changed "The doses will be compared to the EPA Protective Action Guides Figure 4.1 and a protective action recommended to the Emergency Director." To "The projected doses will be compared to the EPA Protective Action Guides Figure 4.1 and a protective action recommended to the Emergency Director."	Added "projected" to doses.
13	6.4.2: Changed "The Commissioner, State Department of Health is responsible for implementation of that plan and the ordering of actions to protect the public." to "The Chairman of the Oswego County Legislature, assisted by the Commissioner, State Department of Health is responsible for implementation of that plan and the ordering of actions to protect the public."	Since NYS is a home rule state, the ordering of protective actions is first performed by Oswego County, and may be done by NYS.

#	Change	Reason
14	Step 6.4.2: Changed "NYSDOH is responsible for evaluating information obtained from JAFNPP and/or other sources and recommending appropriate offsite protective actions to Oswego County." to "Oswego County and NYSDOH is responsible for evaluating information obtained from JAFNPP and/or other sources and recommending appropriate offsite protective actions to Oswego County."	Since NYS is a home rule state, the ordering of protective actions is first performed by Oswego County, and may be done by NYS.
15	Step 6.5.3: Changed "Copies of the agreements from this organization to provide emergency services is contained in Appendix C." to "Agreements from this organization to provide emergency services are listed in Appendix C."	Copies of agreements are no longer maintained within the emergency plan.

SECTION 6
EMERGENCY MEASURES
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SECTION 6
EMERGENCY MEASURES

6.0 EMERGENCY MEASURES

Emergency measures are actions taken to ensure that an emergency situation is assessed and that proper corrective and/or protective actions are taken. These actions include activation of the appropriate components of the emergency organizations, both onsite and offsite; assessment of plant systems status and radiological conditions; corrective actions to ameliorate or terminate an emergency situation; protective actions to minimize the consequences of the emergency to plant personnel and to the general public in the plant environs; decontamination and medical treatment for plant personnel; and other supporting actions such as timely and accurate emergency news dissemination to the public media.

Emergency actions are initiated primarily in response to alarmed instrumentation, but may be initiated through notification to the Control Room by the first individual at the JAFNPP to become aware of an apparent emergency situation.

The occurrence of an off-normal event will initiate the classification of that event via an established procedure into one of the four emergency classes. Once an emergency is classified and declared, the implementation of the JAFNPP Emergency Plan Implementing Procedures will begin. This plan and procedures provide for the implementation of measures to respond to the emergency. The following sections provide a description of the emergency measures.

6.1 Activation of the Emergency Organization

Prior to an emergency being declared, the normal plant operating organization is in place. The initial classification of an off-normal event occurs in the Control Room and is performed by the Shift Manager (see Section 4). Upon the classification and declaration of an emergency the Shift Manager assumes the role of Emergency Director and retains that role until a designated Emergency Director can assume control. It is the primary responsibility of the Shift Manager, however, to act in accordance with any ~~Emergency Operating Procedures (EOPs)~~, and Abnormal Operating Procedures (AOPs) to verify the proper operation of engineered safety features prior to implementation of the emergency plan procedures.

The Emergency Director will, upon classification of the emergency, immediately initiate IAP-1, EMERGENCY PLAN IMPLEMENTATION CHECKLIST. This procedure directs the initiation of notification and activation of the emergency organization and for the initiation of corrective and protective actions appropriate for the emergency class.

6.1.1 ~~Notification~~ Notification And Activation Of Onsite Organization

The onsite emergency organization is activated by personnel notification or when the station alarm is sounded and the emergency is announced over the public address system.

Initially, the emergency response organization will consist of the normal operating shift personnel who will function as the emergency team members. The normal operating staff will be augmented, as needed, by plant personnel and corporate headquarters personnel. Those personnel onsite will respond when the station alarm is sounded and the announcement is made or when individuals are notified by another means. Personnel not onsite during off-hours operations or located at the corporate headquarters will be notified. A designated on-staff plant employee shall perform notifications. The details of notifying all emergency operations personnel during normal and off-hours are contained in EAP-17, EMERGENCY ORGANIZATION STAFFING.

The emergency organization for each class of emergency is discussed in Section 5-ORGANIZATION of this Plan. Figures 5-2 - JAFNPP Defueled Emergency Staffing On Shift Response Organization and 5-3 - Typical Recovery Organization illustrate the normal organization and the Emergency Augmented Staff.

6.1.2 Notification and Activation of Offsite Organizations

The offsite organization will be notified as soon as possible after the declaration of an emergency. Offsite notifications will be made in accordance with EAP-1.1, OFFSITE NOTIFICATIONS. Notifications will be made to:

- A. NRC
- B. State of New York, Nine Mile Point Nuclear Station and Oswego County
- C. Company headquarters

The contents of the initial notification message are in a pre-arranged notification form that will be used by both the transmitting and receiving parties. The initial messages will transmit key information. Date, time, location of emergency, person reporting information and telephone number, the emergency class, whether a release is occurring, the potentially affected area (s), the protective actions recommended, and meteorological conditions are included on the form. No verification of message authenticity is required when the notification will be transmitted via a dedicated telephone line. The content of the notification message will be verified with the State of New York. It is the responsibility of the State to verify message content with other State and Local government agencies. The notification will be repeated for each change in emergency classification or on a periodic basis in accordance with EAP-1.1 - OFFSITE NOTIFICATIONS.

Once the initial notification is made, additional information will be transmitted from JAFNPP to offsite agencies. These follow-up messages will consist of the following information in addition to that transmitted during the initial notification (if known and appropriate):

- A. General Release Information
- B. Atmospheric Release Information
- C. Waterborne Release or Surface Spill Information
- D. Dose/Dose Rate Calculations
- E. Field Measurements of Dose Rates or Surface Contamination

The information will be transmitted and received in accordance with EAP-1.1 - OFFSITE NOTIFICATIONS.

Additional follow-up information regarding plant parameters will be transmitted, if known and appropriate, in accordance with EAP-1.1 - OFFSITE NOTIFICATIONS. The following plant system information may be transmitted:

- A. ~~Primary coolant~~Spent Fuel Pool Cooling system information

~~B. Safety coolant system information.~~

~~EB.~~ Radiation monitoring system information

In addition to those organizations notified, other offsite agencies may be contacted as indicated in EAP-1.1, OFFSITE NOTIFICATIONS. The Emergency Director will ensure that offsite emergency support groups are contacted to request the type and level of assistance, which may be necessary to deal with the emergency condition. The following organizations may be contacted for assistance, either through direct telephone contact or by message relay through the Oswego County Sheriff's Department or Oswego E-911 Center:

- A. Local fire departments through agreement with the Oswego County Fire Coordinator
- B. Oswego Hospital
- C. University Hospital
- D. Oswego County Sheriff's Department
- E. Nine Mile Point Nuclear Station
- F. United States Department of Energy
- G. R.E. Ginna Nuclear Power Plant

Letters of agreement are maintained with each of the offsite agencies, which specify the commitment of that organization to provide assistance to JAFNPP. A listing of Letters of Agreement are contained in Appendix C. The offsite agencies contacted will activate their organizations to the level required in accordance with their plans and procedures. See Appendix J of this Plan for a list of supporting documents.

In addition to the services provided by the above-mentioned organizations, support may be provided by other private organizations.

6.2 Assessment Actions

Provisions are made for assessment and continuing reassessment throughout the course of an emergency to ensure the effective coordination, direction and upgrading of emergency activities in a timely manner. The assessment actions are described in detail in the Emergency Plan Implementing Procedures. The assessment functions and the general methodology and techniques utilized are identified in this section.

Initially, the Shift Manager will assume the responsibility for the emergency response direction and coordination and will take charge of all assessment activities until these functions are turned over to another designated Emergency Director. Once the normal shift organization has been augmented, the Radiological Coordinator (TSC) and Radiological Assessment Coordinator (EOF) will direct all in-plant and out-of-plant survey teams and the dose assessment activities of JAFNPP.

6.2.1 Assessment Actions and General Discussion

Unusual Event

Continuous assessment of the status of plant systems and radiological conditions is provided by plant instrumentation and is supplemented by routine surveillance function. The occurrence of an Unusual Event will be recognized by instrument indications and / or alarms, surveillance results or other observations of an off-normal condition by an individual at the plant.

~~Many events within this classification involve exceeding the Limiting Conditions of Operation cases.~~ Assessment and corrective actions are described in detail in operating procedures. Supplementary assessment actions are described, where appropriate, in the Emergency Plan Implementing Procedures.

For events which require dispatching of emergency teams, such as a fire or damage control, the initial and continuing assessment will be performed by the team leader. Through training and experience the team leader will be able to evaluate the condition, implement proper corrective action and escalate the response as necessary.

Offsite dose projections will be performed if the event involves radiological effluents exceeding the Technical Specification limits or if such releases are projected. These dose projections are based on the rate and estimated duration of the releases and current meteorological parameters. The projections will be repeated throughout the duration of the emergency to reflect any significant changes. Methods for performing rapid dose projections including the use of computerized meteorological/dose assessment models are described in the Emergency Plan Implementing Procedures.

Alert

Assessment actions for an Alert include an upgrading of the functions performed for an Unusual Event as appropriate for the condition. Examples are:

- Increased surveillance of in-plant instrumentation
- Additional assistance from off-duty personnel and/or offsite support groups.
- Possible radiological monitoring of offsite areas and increased dose projection activities.

Site Area Emergency

Assessment actions for a Site Area Emergency will be in accordance with the increased probability of a major failure of plant safety functions and the potential release of significant quantities of radioactive material. Examples are:

- Increased surveillance of instrumentation, which may provide information on the status of the ~~core and reactor coolant~~spent fuel pool cooling system.
- Increased offsite monitoring efforts including direct radiation measurements, sampling and analysis of air and other environmental media.
- Dose projection results correlated with offsite monitoring data.
- Coordinated offsite dose assessment activities with other emergency response organizations.
- ~~Increased reactor coolant sampling and analysis frequency.~~

General Emergency

The emphasis of assessment actions for a General Emergency will be based on the likelihood of ~~substantial core degradation, potential loss of containment integrity, and~~ the release of large quantities of radioactive material. Surveillance of instrumentation relative to ~~the core condition, reactor coolant system activity, containment pressures~~spent fuel pool cooling and radiation level and radioactive effluents will be increased. Dose projection and offsite monitoring efforts will be further intensified and on-going communications will be maintained with the Oswego County Emergency Operations Center (OCEOC) and New York State Emergency Operations Center (NYSEOC) to ensure that offsite assessments are based on the best available information.

Specifically, post-accident assessment capability will include:

- ~~— Post-accident sampling analysis of reactor coolant and containment atmosphere.~~
- In-plant iodine instrumentation.
- ~~— Plots showing containment radiation versus time.~~
- ~~— Determination of the degree of reactor core damage.~~

6.2.2 Field Radiological Assessment

Field radiological data will be collected by onsite and offsite survey teams. There will be at least one onsite and one offsite survey team, when the ERO is fully staffed and radiological conditions warrant it. Each team should be comprised of at least two individuals. (In instances of a fast breaking event, only a single ~~technician~~specialist may be available). The teams will be deployed for any emergencies, which involve actual releases of radioactive materials and at the discretion of the Emergency Director. Survey teams will be formed following the request by the Emergency Director or his designee by direct communication or over the PA system. It is expected that the teams can be deployed in about 30 minutes during normal working hours and in about 60 minutes during other hours. The survey teams will use emergency vehicles (or personal vehicles, if needed) for transportation and will maintain phone or radio contact with the Emergency Director or his designee while deployed.

An onsite survey kit and two offsite survey kits are maintained for emergency use by survey teams. Each kit contains portable instrumentation for direct radiation surveys, contamination surveys, and for collecting and analyzing airborne samples for gross and iodine radioactivity.

Rapid assessment of any radiological hazards resulting from the gaseous pathway will be made in the field by direct radiation surveys and by collecting airborne samples and then analyzing these samples for gross radioactivity and iodine radioactivity. These data will be communicated to the Emergency Director or his designee as the information is obtained.

Rapid field assessment of liquid samples is not considered to be essential because the nearest drinking water supply is far enough away to provide ample time for warning the appropriate state and local authorities in the event protective measures are required. When field liquid samples are required, they will be taken and transported to an Environmental Lab for assessment.

6.2.2.1 In-plant Surveys

In-plant survey teams will be dispatched during an emergency if annunciators, alarms, or other instrumentation indicate the possible or actual release of radioactivity to in-plant locations. The Emergency Plant Manager, Radiological Coordinator, or designee will notify, brief, and dispatch the survey teams. All dispatching and directing of survey teams and the performance of surveys will be accordance with EAP-6, IN-PLANT EMERGENCY SURVEY/ENTRY.

The in-plant survey teams will be composed of a team leader and team member. The teams will report to and be dispatched from the Operational Support Center. Emergency survey kits are maintained for use by the in-plant survey teams. These kits contain portable instrumentation for direct radiation surveys, contamination surveys, the collection and analysis of airborne samples for gross and iodine radioactivity, and the collection of liquid samples.

~~Equipment is also provided for post accident reactor water sampling.~~ For details of the specific type and quantities of equipment contained in each kit see SAP-2, EMERGENCY EQUIPMENT INVENTORY.

6.2.2.2 Out-of-plant Emergency Surveys

Out-of-plant survey teams may be dispatched if releases of radiation have occurred, or to verify that releases above technical specifications are not occurring. The Emergency Director, Emergency Plant Manager, or Radiological Coordinator, Radiological Assessment Coordinator, or designee, will notify, brief, and dispatch the survey teams. The dispatching and direction of survey teams to designated locations (see Figures 6.5 and 6.8) and the performance of out-of-plant surveys will be performed in accordance with EAP-5.3, ONSITE/OFFSITE DOWNWIND SURVEYS AND ENVIRONMENTAL MONITORING, ~~and EAP-4A, ONSHIFT DOSE ASSESSMENT~~ and EAP-4B, DETAILED DOSE ASSESSMENT.

Out-of-plant survey teams will (if possible), be composed of a team leader and team member. The teams will report to and be dispatched from the Technical Support Center or the Emergency Operations Facility. Emergency survey kits are maintained for use by the out-of-plant survey teams.

The out-of-plant survey teams have the capability and equipment to collect environmental and emergency TLD/DLR (Dosimeter of Legal Record), filter media from the environmental air samplers, water, milk, soil, vegetation, and snow samples. The field teams can also take direct radiation surveys and collect and analyze in the field, airborne samples for gross and iodine radioactivity. For details of the specific type and amount of equipment contained in the out-of-plant survey kits see SAP-2, EMERGENCY EQUIPMENT INVENTORY.

The field assessment of airborne samples will be reported back to the TSC or EOF where the Radiological Coordinator or Radiological Assessment Coordinator will use the data for dose assessment. Other environmental media will be transported to an Environmental Lab for analysis.

One type of radiological data which the onsite and offsite survey teams will be collecting to aid in dose assessment is airborne radioiodine concentrations. Monitoring is accomplished by the use of portable air sampling pumps equipped with a particulate filter and silver zeolite cartridge. The particulate filter and silver zeolite cartridge can be analyzed in a low background area using a count rate meter and mini-scaler for determination of total radioiodine. The silver zeolite cartridges have an iodine retention in excess of 99% while retaining only traces of noble gases. Particulates are removed using a pre-filter. Gamma spectrometry at an Environmental Lab will be used for analysis as time permits but is not necessarily required to make a rapid estimation of airborne radioiodine.

The count rates obtained from the filter and silver zeolite cartridges are multiplied by correction factors to determine the concentrations of particulates and airborne radioiodine.

With the use of silver zeolite cartridges, the interference from the presence of noble gases is not expected to impair the capability to detect less than $1\text{E-}7$ $\mu\text{Ci/cc}$ of radioiodine. Cartridges and filters also can be analyzed using gamma spectrometry in either the JAFNPP counting laboratory, an environmental laboratory, or the adjacent NMPNPS, Unit 1 laboratory.

6.2.3 Dose Assessment Methods and Techniques

Three methods are available at JAFNPP to assess offsite doses following an accident. The first method utilizes EAP-4A, ONSHIFT DOSE ASSESSMENT, for Control Room Dose Assessment. The second method utilizes EAP-4B, DETAILED DOSE ASSESSMENT in conjunction with the Unified RASCAL Interface (URI) computer application. The third method uses measured activity in environmental samples collected by the Emergency Radiological Survey Teams. All of these methods estimate external doses from noble gases and thyroid doses from radioiodine. A summary of each method is described in the following paragraphs.

The computer applications used to provide dose calculations are evaluated against the EPA-400 plume exposure Protective Action Guides (PAGs) applicable for the early phase of an accident. These evaluations place an emphasis on determining the necessity for offsite protective action recommendations. Dose assessment actions will be performed in the following sequence:

- 6.2.3.1 EAP-4A, ONSHIFT DOSE ASSESSMENT and EAP-4C, PROTECTIVE ACTION RECOMMENDATIONS will be utilized from the onset of a release to approximately 1 hour post-accident: Shift personnel will rely on a simplified computerized dose model (URI in "rapid mode") to assist them in developing offsite dose projections using real time data from effluent monitors and site meteorology.
- 6.2.3.2 EAP-4B, DETAILED DOSE ASSESSMENT and EAP-4C, PROTECTIVE ACTION RECOMMENDATIONS will be utilized from approximately 1 hour post-accident to event termination. Estimates of off-site doses based on more sophisticated techniques are provided. Dedicated ERO personnel will analyze the offsite consequences of a release using the full capabilities of the URI model. These additional methods are able to analyze more offsite conditions than the simplified quick method, as well account for more specific source term considerations.

The URI program utilizes the following features:

- a. The system provides results of the sum of the effective dose equivalent from external radiation (both the plume and ground deposition) and the committed effective dose equivalent from inhalation of radioisotopes (this total is referred to as the TEDE), committed dose equivalent to the thyroid (CDE-thyroid), as well as deposition rates and cumulative deposition at the ground.
- b. URI uses both meteorological and source term data screens with editing capabilities, allowing both easy data-entry and the ability to review, edit, or update data entered for other time steps. User "help" functions are available on command, and upon entry of invalid data.
- c. The URI meteorological data entry screen also allows for direct entry of data from the NMP-JAF Meteorological Monitoring System (MMS).
- d. Program results for URI calculation routines include those for considering source term and plume decay, as well as the effects of wet and dry deposition of iodines and particulates.
- e. The model also includes predefined Protective Action Guidelines for the plume and ingestion pathway EPZs to alert users of the program to any exceedances of pre-determined limits.
- f. Multiple source term ~~selection~~selection representing different isotopic mixtures can be entered or the default values changed to more accurately characterize an accident.
- g. The URI model and JAF procedures integrate both JAF and Nine Mile Point dose assessment information.

6.2.3.3 Dose Estimates from Field Measurements

The third method available to assess dose rate is based on activity measured in environmental media. Three techniques will be used to calculate doses from gross radioactivity measurements: Direct gamma dose by TLD/DLR, in

mrem; direct beta-gamma dose rate by portable survey instruments, in mrem/hr; and dose from gross measurements following radioiodine sampling. The first two techniques yield direct dose information. The third technique for dose rate determinations involve environmental sampling by the survey teams with later evaluation using EAP-4B, DETAILED DOSE ASSESSMENT, to determine offsite doses. Dose rates will be measured using portable survey instruments. Selective sampling for radioiodine will be performed using a silver zeolite cartridge preceded by a particulate filter. Silver zeolite cartridges are iodine specific because they permit approximately 99% of the noble gases to pass through.

The particulate filters and the silver zeolite cartridges are analyzed in the field by determining a gross count rate using a portable count rate meter and mini-scaler. Calculations of dose from the silver zeolite cartridge are based on the assumption that any measured activity is totally attributable to I-131. Gross measurements of particulate filters and silver zeolite cartridges will be performed in the field.

Because this method of analysis is less accurate than laboratory analysis, protective actions will not be taken based on these data unless protective actions are deemed necessary and laboratory analytical results are not available.

If it is determined that a release of radioactive liquid to Lake Ontario has occurred, the projected TEDE and CDE skin doses received while boating or swimming on the lake will be determined in accordance with EAP-12, DOSE ESTIMATED FROM AN ACCIDENTAL RELEASE OF RADIOACTIVE MATERIAL TO LAKE ONTARIO.

Survey teams will also collect environmental media such as milk, human food products, water, snow, and soil which will be analyzed in an environmental laboratory for radioiodine (I-131, 133) by gamma spectrometry. These results, along with the gross radioiodine

measurements mentioned above, will be used in determining CDE thyroid dose estimates in accordance with EAP-4B, DETAILED DOSE ASSESSMENT and environmental surveillance procedures.

Dose rate and dose information will be provided to the Radiological Assessment Coordinator (or Radiological Coordinator) for use in determining recommended protective actions.

6.3 Corrective Actions

Detailed operating procedures, ~~emergency operating procedures, and Severe Accident Operating Guidelines (SAOGs)~~ are utilized by the plant operating personnel to assist them in responding to potential or actual emergency events.

These procedures describe the corrective actions necessary to place the plant in a safe condition. Long term corrective actions will be taken as part of the Recovery phase (Section 9).

In addition, the Operational Support Center will be activated and serve during the emergency as the location for the assembly and dispatch of teams to respond to plant conditions. Specifically, damage control teams, fire brigades, and search and rescue teams will be directed in accordance with emergency implementing procedures. The Emergency Director or Emergency Plant Manager will direct all corrective actions through the appropriate emergency coordinators.

Some essential corrective actions may involve the risk of higher than normal radiation exposure to emergency response personnel. Such actions could involve protecting valuable property, protection of large populations, or lifesaving actions. Figure 6.1 specifies the limits for such emergency radiation exposure and other relevant criteria to be considered.

6.4 Protective Actions

Protective actions are measures which are implemented to prevent or mitigate consequences to individuals during or after a radiological emergency. Protective actions within the JAFNPP site boundary are primarily the responsibility of the Shift Manager or Emergency Plant Manager, but may include assistance by offsite organizations. Protective actions outside the JAFNPP site boundary are primarily the responsibility of State and local emergency organizations, but may include coordination of activities and dissemination of appropriate data with JAFNPP, and recommendations by the JAFNPP Emergency Director.

6.4.1 Onsite Protective Actions

The primary protective measure for onsite personnel in an emergency is prompt evacuation from areas which may be affected by radiation, concentrations of airborne radioactivity that exceeds normal limits for specific area or areas and cannot be readily controlled, or other hazardous conditions.

All personnel (including employees not having emergency assignments, visitors, and contractor and construction personnel) will be notified of an emergency situation by the sounding of the station alarm and an announcement over the public address system and by Security for the Wellness Center, etc.

A range of protective actions to protect onsite personnel during hostile action is provided to ensure the continued ability to maintain spent fuel pool cooling and safely shut down the reactor and perform the functions of the emergency plan.

6.4.1.1 Protected Area Evacuation

A Protected Area Evacuation may be ordered by the Shift Manager or Emergency Plant Manager for all of the protected area based on initiating conditions such as; high radiation levels, fire, toxic gases, etc. Actions will be taken in accordance with EAP-10, PROTECTED AREA EVACUATION.

When a Protected Area Evacuation is ordered, personnel will be instructed to proceed to the nearest primary assembly area via a route that bypasses the hazardous area.

Once at the primary assembly areas, accountability will be conducted. The Shift Manager or Emergency Plant Manager will then decide whether to implement a Site Evacuation, order an early dismissal, or to allow personnel to return to their normal work stations.

A Site Evacuation involves the movement of personnel from the site to a remote assembly area offsite or to their homes. A site evacuation may be ordered by the Shift Manager or Emergency Plant Manager based on severe abnormal conditions such as high radiation levels, safety hazards, or declaration of a General Emergency. Initiating conditions and the implementation of a Site Evacuation are described in detail in EAP-11, SITE EVACUATION.

When a Site Evacuation is ordered by the sounding of the evacuation alarm, all personnel without emergency assignments will proceed offsite to the remote assembly area or to their homes using their own vehicles.

A Staging/Muster area and an Alternate TSC and Alternate OSC are available if the site is under threat of or experiencing hostile action. Augmented emergency response staff can be staged at these locations in a manner that provides rapid response to mitigate site damage as soon as the site is accessible, as well as continuity of TSC and OSC functions.

The remote assembly area is located at the Oswego County Airport on County Route 176 adjacent to the EOF and JIC in the Town of Volney. Should offsite radiological considerations exist, the Shift Manager or Emergency Plant Manager will direct the evacuating personnel to take alternate routes or designate an alternate remote assembly area, if necessary.

A Site Evacuation may be ordered with or without a Protected Area Evacuation previously being ordered. If a Protected Area Evacuation has been ordered, accountability will have been accomplished previously. If no Protected Area Evacuation was ordered, accountability will be accomplished when personnel exit the plant and turn in their badges.

To minimize the spread of contamination, the Shift Manager or Emergency Plant Manager will direct a team to evaluate contamination on cars and decontaminate them by onsite washing, if time permits. Personnel will be monitored and decontaminated at the remote assembly area by a radiation survey team dispatched from the plant if necessary.

6.4.1.3

Personnel Accountability

The Shift Manager or Emergency Plant Manager will inform Security and direct them to begin personnel accountability. An accountability supervisor is designated and is responsible for the implementation of personnel accountability and the reporting of results. All actions will be taken in accordance with EAP-8, PERSONNEL ACCOUNTABILITY.

Accountability compares the name and number of persons in the primary assembly areas with the name and number of persons badged into the protected area. The results of this comparison and any discrepancies are reported to the Shift Manager or Emergency Plant Manager.

Following any unsuccessful attempts to locate missing personnel through supervisors, co-workers, and PA announcements, the Shift Manager or Emergency Plant Manager will be notified and will initiate search and rescue actions in accordance with implementing procedure EAP-9, SEARCH AND RESCUE OPERATIONS.

a. Contamination Control

The JAFNPP Radiation Protection Department Procedures and Programs contain provisions governing the control of contamination including access control, use of protective clothing, contamination monitoring, and the release of potentially contaminated items from Radiologically Controlled Areas. The guidelines of this manual shall apply to contamination control during emergency conditions.

b. Food and Water in Plant

Drinking water at the JAFNPP is provided by the City of Oswego and distributed by the domestic water system, which is a closed system. As a result of this configuration, contamination of the drinking water is unlikely.

A supply of water is maintained in the Control Room. With the exception of food brought to the site by Plant personnel, or prepared in the cafeteria, all other food supplied to the site arrives sealed for vending machine sale. These machines and the cafeteria are located in non-radiologically controlled areas. If these areas become contaminated, they will be considered as radiologically controlled areas, and eating will be prohibited as is normally the case for radiologically controlled areas. Normal radiologically controlled areas access controls will prevent the removal of contaminated food from these radiologically controlled areas and possible ingestion by unwary individuals.

c. Exposure Control

The exposure of Plant personnel during emergency operations shall be maintained as low as reasonably achievable, and should be maintained less than the administrative guides established in JAFNPP RP Procedures and Programs and/or less than the Federal radiation exposure standards established in 10 CFR 20. In order to accomplish this objective, administrative means used during normal operations to minimize personnel exposure, such as Radiation Work Permits, Authorization to Exceed Radiation Exposure Guides, and ALARA measures should remain in force to the extent consistent with timely implementation of emergency measures.

EAP-15, EMERGENCY RADIATION EXPOSURE CRITERIA AND CONTROL shall be utilized to provide guidance where normal operations exposure control procedures are not sufficient.

Dosimetry equipment in the form of TLDs/DLRs, direct reading dosimeters and electronic dosimeters are provided at the plant, and such dosimetry will continue to be used during emergency situations.

Personnel will be available 24 hours per day during an emergency to issue and/or process dosimetry devices. JAFNPP RP Procedures and Programs provide guidelines and procedures for issuing, using, and reading/processing dosimetry devices and provisions for exposure record keeping. During an emergency the processing frequency will be based upon the exposure rates and/or the exposures received by emergency personnel.

Exposure control shall include accelerated or additional bioassays in the event there are individuals who are suspected of being exposed to elevated levels of airborne activity as a result of the emergency.

This bioassay consists primarily of whole body counts. This is supplemented by urinalysis when predetermined screening levels, or predetermined airborne activity exposure levels, are exceeded or suspected of being exceeded (with provisions for follow-up monitoring, medical treatment, and incident reporting).

Exposure control may also involve administration of radioprotective drugs in accordance with EAP-19, EMERGENCY USE OF POTASSIUM IODIDE (KI).

d. Respiratory Protection

The JAFNPP RP Procedures and Programs contain provisions covering the use of respiratory protection equipment and the administration of the JAFNPP Respiratory Protection program. The provisions of this program shall apply to all usage of respiratory protection equipment during emergencies.

6.4.2 Offsite Protective Actions

If an emergency exists at JAFNPP that involves the actual or potential release of airborne or waterborne radiation, the Radiological Assessment Coordinator or designee, will evaluate the doses projected to occur in the offsite area as described in section 6.2.3. Based on the projected doses, the Radiological Assessment Coordinator or designee, will evaluate the need for protective actions for the public using EAP-4C, PROTECTIVE ACTION RECOMMENDATIONS. The projected doses will be compared to the EPA Protective Action Guides Figure 4.1 and a protective action recommended to the Emergency Director. The results of this evaluation and the recommended protective action information will be transmitted to the State of New York and Oswego County by the Emergency Director via the dedicated communication system, or alternate communication method.

NOTE: If a General Emergency has been declared, protective action recommendations will be based on the flowcharts contained in EAP-4C, PROTECTIVE ACTION RECOMMENDATIONS. However, responsible offsite officials must decide the feasibility of implementing the protective actions at the time of the accident.

The responsibility for actions to protect offsite individuals rests with the State of New York Department of Health, as described in the New York State Radiological Emergency Preparedness Plan.

The Chairman of the Oswego County Legislature, possibly assisted by the Commissioner, State Department of Health is responsible for implementation of that plan and the ordering of actions to protect the public.

Oswego County and NYSDOH is responsible for evaluating information obtained from JAFNPP and/or other sources and recommending appropriate offsite protective actions to Oswego County. Such recommendations, based on all available data, local constraints and other consideration may include:

- Shelter for affected populations.
- Evacuation within designated area(s).
- Control of drinking water, milk, and agricultural products.

Since the 10-mile Emergency Planning Zone is located entirely in Oswego County (see Figure 6.2), the principal offsite local coordinating agency for providing response to radiological emergencies in the vicinity of the JAFNPP is the Oswego County Emergency Management Office. Upon notification by NYSDOH or by the JAFNPP Emergency Director of a situation which may require protective actions for offsite populations, the Oswego County Emergency Management Office will initiate appropriate actions, including notification (see Figure 6.7) and provision of prompt instructions to the people within the plume exposure EPZ, considering recommendations from the notifying party, and within the guidelines of the Oswego County Radiological Emergency Plan.

In order to facilitate the planning and implementation of protective actions, the 10-mile Emergency Planning Zone is further subdivided in Emergency Response Planning Areas (ERPAs), Figure 6.3. All recommendations from JAFNPP to the State and from the State to the County will be in terms of ERPAs. The public Information Program, Appendix H, will ensure that the public is aware of the proper response to an emergency or protective action order.

6.4.2.1 Sheltering

Sheltering may be ordered for the population within the 10-mile EPZ.

Sheltering involves the population going or remaining inside of their homes or place of business, to wait further information and instructions.

Sheltering is particularly useful to assure that a population is positioned so that if the need arises, communication with the population can be carried out expeditiously.

6.4.2.2 Evacuation

Evacuation may be ordered for all or part of the population in the affected ERPAs.

The Oswego County Radiological Emergency Preparedness Plan contains a detailed evacuation plan, which includes specific county agency operating procedures and evacuation route maps (refer to Figures 6.4 and 6.9), as well as special facilities throughout the ten-mile EPZ (see Figure 6.6). In addition, a reception center and congregate care centers are designated in the Onondaga County Radiological Emergency Response Host Plan.

6.4.2.3 Thyroid Prophylaxis

Federal Guidance from the NRC and FDA has prompted New York State and Oswego County to include the prophylactic use of potassium iodide (KI) as an additional public protective action. Implementation of this measure is in accordance with the NYS and Oswego County Plans.

6.4.2.4 Food, Water, and Milk Control

Within the Ingestion Pathway Emergency Planning Zone (approximate 50-mile radius), the State Commissioner of Health may order controls to minimize radiation doses to the public through ingestion of contaminated food, water and milk. When requested, JAFNPP will assist with radiological sampling of environmental media and the results reported to the NYSDOH. In addition, other sources of sampling information will be used to evaluate the need for controls.

Ingestion Pathway protective actions can include the quarantine or destruction of contaminated water and foodstuffs and the substitution of uncontaminated supplies.

6.5 Aid to Affected Personnel

Procedures are established which provide for the control of radiation exposure including emergency exposure, personnel contamination, and for assistance to injured personnel, including situations involving complications due to the presence of radiation or radioactive contamination.

6.5.1 Radiation Exposure Control

The JAFNPP has an onsite dosimetry system. The system consists of DLRs, and/or direct-reading dosimeters or electronic dosimeters. A limited number of TLDs/DLRs and direct reading dosimeters are also available in emergency kits. During an emergency, personnel are available 24 hours per day to issue and/or process dosimetry devices and to document and maintain the results.

Exposures will be controlled based on the guidance and recommendations contained in EAP-15, EMERGENCY RADIATION EXPOSURE CRITERIA AND CONTROL. These procedures provide for expeditious decisions with consideration given for a known and reasonable balance of associated risks.

Reasonable measures will be taken to limit the radiation exposure of emergency personnel who provide rescue, first aid, decontamination, and ambulance or medical treatment services to within applicable exposure limits specified in 10 CFR 20 unless higher exposures are deemed necessary by the Emergency Director or appropriate offsite authority. Figure 6.1 summarizes the emergency and lifesaving actions such as:

- Removal of injured persons
- Undertaking corrective actions
- Performing assessment actions
- Providing first aid
- Performing personnel decontamination
- Providing ambulance service
- Providing medical treatment services

6.5.2 Decontamination and First Aid

Personnel contamination in emergency situations will be controlled to the extent feasible by the normal methods of using protective clothing and surveying for contamination following the removal of such clothing.

Personnel decontamination areas, consisting of showers and sinks, which drain to the radwaste system, are available for either routine or emergency use at the JAFNPP. Similar facilities are available at the NMPNPS. Plant employees are instructed in the proper methods of removal of minor contamination from skin surfaces. Decontamination efforts involving significant amounts of contamination, particularly in the vicinity of facial openings, will normally be performed under the direction of Radiation Protection personnel. Detailed criteria and methods for personnel decontamination are described in the JAFNPP RP Procedures and Programs.

At least two persons who are knowledgeable in basic first aid methods are onsite at all times. Procedure EAP-2, PERSONNEL INJURY delineates steps for handling a contaminated medical injury. First aid to injured personnel can normally be performed in conjunction with any necessary decontamination methods. However, if immediate treatment of injury is vital, that treatment shall take precedence over decontamination. The philosophy also extends to offsite emergency assistance involving radioactive contamination. For that purpose, measures are established to ensure timely offsite medical treatment, as described in Sections 6.5.3 and 6.5.4.

6.5.3 Medical Transportation

Arrangements have been made for the transportation to a medical treatment facility of personnel who may have injuries complicated with radioactive contamination or who may have been involved in a radiation incident from the JAFNPP.

Agreements from this organization to provide emergency services are listed in Appendix C. Ambulance emergency supply kits are available for use.

A communication link can be established by radio between the County dispatcher and emergency vehicles. A communication link can be established by telephone between the JAFNPP and the dispatcher.

6.5.4 Medical Treatment

Arrangements have been made with the Oswego Hospital for the medical treatment of patients from the JAFNPP who may have injuries complicated by radioactive contamination.

Similar arrangements have been made with the University Hospital for medical treatment of contamination injuries and significant overexposure to radiation. Both facilities have developed detailed procedures for handling radioactively contaminated patients from the JAFNPP.

A listing of Letters of Agreement are contained in Appendix C.

A communication link can be established by telephone between the JAFNPP and any of these medical facilities, if necessary.

Medical treatment facilities and onsite personnel may also contact a radiation management expert who is contracted to provide radiological treatment advice upon request. This service is available to medical personnel 24-hours per day year round. This contracted letter of agreement is ~~contained~~listed in Appendix C.

6.6 Figures, Forms and Attachments

Figure 6.1 Emergency Exposure Criteria

Figure 6.2 Ten-Mile EPZ Map

Figure 6.3 2010 Population Estimates ERPAs

Figure 6.4 Bus Routes and Pickup Point Map

Figure 6.5 Offsite Survey Locations Map

Figure 6.6 Special Facilities Map

Figure 6.7 Siren Locations Map

Figure 6.8 Offsite Environmental Stations and TLD Locations Map

Figure 6.9 Primary Evacuation Routes Map

FIGURE 6.1
EMERGENCY EXPOSURE CRITERIA

Planned exposure to the whole body and/or specific organs shall not exceed the following recommendations of the Environmental Protection Agency in EPA-400-R-92-001		
Guidance on Dose Limits for Workers Performing Emergency Services		
Dose Limit ^a TEDE (rem)	Activity	Condition
5	All	Intentionally Blank
10	Protecting valuable property	Lower dose not practicable
25	Life saving or protection of populations	Lower dose not practicable
>25	Life saving or protection of large populations	Only on a voluntary basis to persons fully aware of the risks involved.
^a Workers performing services during emergencies should limit dose to the lens of the eye to three times the listed value and doses to any other organ (including skin and body extremities) to ten times the listed value. These limits apply to all doses from an incident, except those received in unrestricted areas as members of the public during the intermediate phase of the incident.		
<u>Additional General Criteria</u>		
<ul style="list-style-type: none"> All reasonable means for keeping personnel emergency exposures as low as reasonable achievable and within 10 CFR 20 limits shall be expended before exposure exceeding 10 CFR 20 limits are permitted. 		
<ul style="list-style-type: none"> All reasonable measures shall be taken to minimize skin contamination and the uptake of radioactive material. 		
<ul style="list-style-type: none"> All personnel performing emergency activities involving exposures, which may or will exceed 10 CFR 20 limits, shall be volunteers and shall be briefed on potential exposure consequences prior to receiving such exposures. 		
<ul style="list-style-type: none"> Women of childbearing age shall not be permitted to receive emergency exposures, which exceed 10 CFR 20 limits. 		
<ul style="list-style-type: none"> Retrospective exposures shall be evaluated on an individual case basis. 		

FIGURE 6.2
MAP NUMBER 1
TEN MILE EMERGENCY PLANNING ZONE (PLUME EXPOSURE PATHWAY)

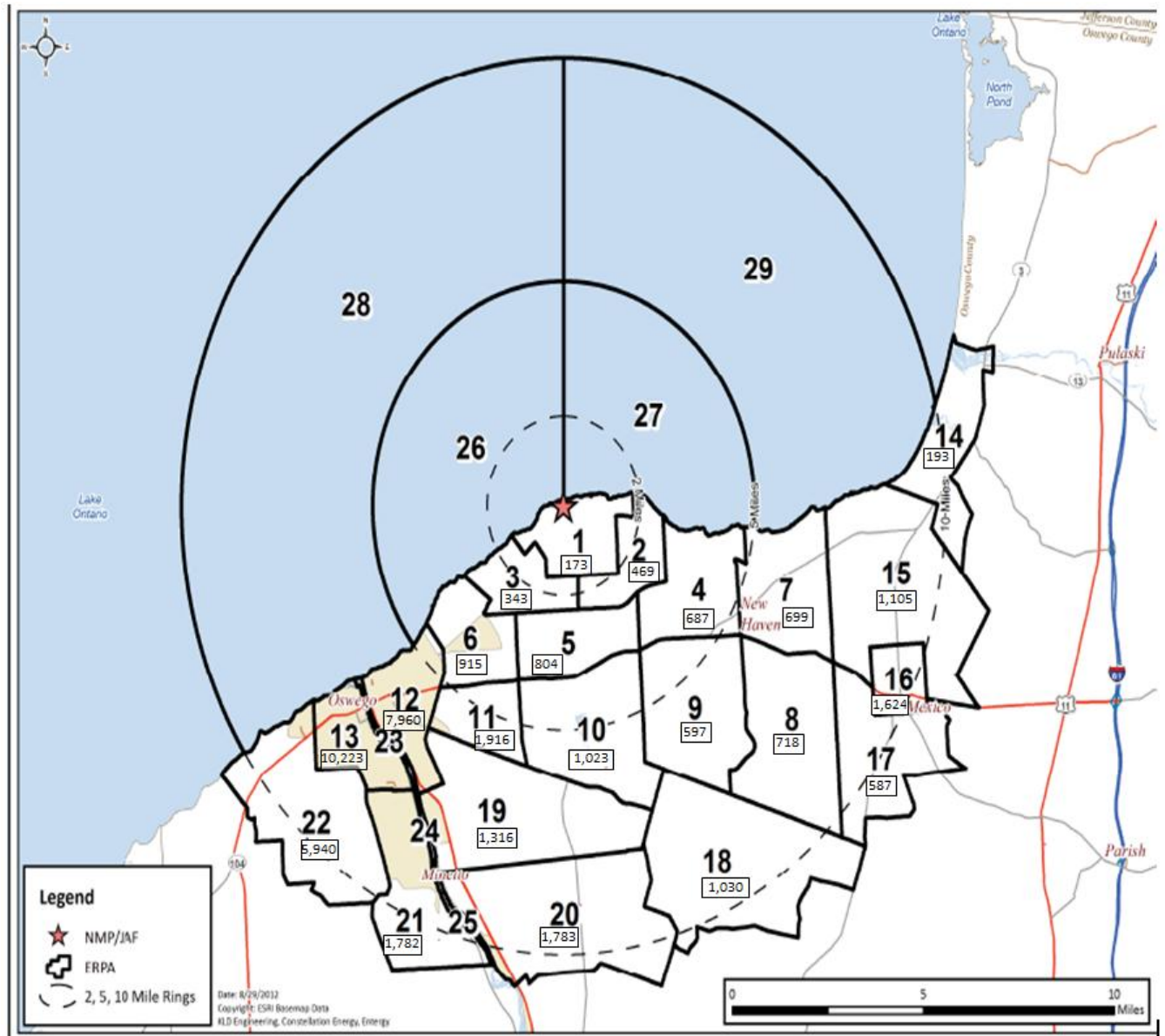
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in Merlin under:

Category - GENERAL RECORDS

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Document ID - SECTION 6

FIGURE 6.3
2010 POPULATION ESTIMATES ERPAS



LEGEND 1 ERPA NUMBER 173 ERPA POPULATION

2010 Population Estimates
Emergency Response
Planning Areas (ERPAs)

J.A. FitzPatrick/Nine Mile Point
Radiological Emergency Response
Plan and Procedures

FIGURE 6.4
MAP NUMBER 3
BUS ROUTES AND PICKUP POINT MAP

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Document ID - SECTION 6

FIGURE 6.5
MAP NUMBER 4
OFFSITE SURVEY LOCATIONS

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Document ID - SECTION 6

FIGURE 6.6
MAP NUMBER 5
SPECIAL FACILITIES

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Document ID - SECTION 6

FIGURE 6.7
MAP NUMBER 6
SIREN LOCATIONS

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FIGURE 6.8
OFF-SITE ENVIRONMENTAL STATION AND TLD LOCATIONS
PAGE 1 OF 1

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Document ID - SECTION 6

FIGURE 6.9
MAP NUMBER 8
PRIMARY EVACUATION ROUTES

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Document ID - SECTION 6

Rev. No. ~~35~~—PENDING

REVISION SUMMARY PAGE

REV. NO. CHANGE AND REASON FOR CHANGE

PENDING

Section 7.1.1: Updated for permanent cessation of power operation

Section 7.3.3.1: Updated for permanent cessation of power operations

Section 7.3.3.9: Updated for permanent cessation of power operations

~~35~~ ~~FULL REVISION~~

#	Change	Reason
1	7.2.8.1: Replaced "This notification will be made when there has been a simultaneous failure of nineteen (19) or more sirens for one (1) hour or more, or a simultaneous failure of four (4) or more sirens lasting 12 hours or more, or notification has been received that the Tone Alert Radio/Emergency Alert System has been out of service for one (1) hour or more." with the following statement in 7.2.8: "Reportability criteria for the Alert and Notification System failure is consistent with NUREG 1022 and industry guidance."	There has been a change to the regulatory requirements and industry guidance that dictates ANS reportability.
2	7.2.8 and 7.2.8.1 — 7.2.8.4: removed all references to the current configuration, design and performance objectives of the Prompt Notification System and system and replaced wording with "The design objectives, construction, operation and maintenance of the ANS meets or exceeds all of the relevant criteria for ANS delineated in NUREG 0654 and FEMA-REP-10. The above ANS attributes are described in "Design Report, Nine Mile Point Nuclear Generating Station and James A. Fitzpatrick Nuclear Power Plant, Public Alert and Notification System, Revision 1, November 2015" which was approved by FEMA in January 2016."	All details on the ANS system are contained in the FEMA approved ANS Design Report.
3	Global: Changed "Public Notification System" to "Alert and Notification System (ANS)"	Updates nomenclature to align with current guidance and regulation.
4	Figure 7-5 (text description of siren locations)	This duplicates the information in Figure 7-4 and is therefore not needed.
5	Section 7.2.8: Updated terminology associated with Oswego County responsibilities regarding the ANS. Did not remove or add any responsibilities.	Updates nomenclature to align with current guidance and regulation.

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SECTION 7

EMERGENCY FACILITIES AND EQUIPMENT

7.0 EMERGENCY FACILITIES AND EQUIPMENT

Identified and described in this section of the Plan are the emergency response facilities; communications systems; assessment, protective, first aid, and decontamination facilities; and equipment which is available for the Emergency response to an emergency at JAFNPP. (Facility activation may be modified by the Emergency Director if the safety of incoming personnel may be jeopardized by a security event or other event hazardous to incoming personnel).

7.1 Emergency Response Facilities

The emergency response facilities are identified and described in this section.

7.1.1 Control Room

The Control Room is the primary location in which plant conditions are monitored and controlled and corrective actions are taken to mitigate emergency conditions. The room is equipped with instrumentation and controls for major plant systems. It is the facility in which initial accident assessment, emergency classification, and emergency response occurs. Meteorological and radiological instrumentation provide data for dose calculations. Emergency communications systems for in-plant and out-of-plant communications are also provided.

Initially, the on-duty Shift Manager will assume the role of Emergency Director and the Control Room will be the primary location for assessment and coordination of corrective and protective actions for essentially all emergency conditions. The Control Room is staffed as specified in the JAFNPP Emergency Plan.

Emergency response functions which are initially conducted in the Control Room will be transferred to the Technical Support Center or the Emergency Operations Facility, as soon as it is feasible to do so, for events which constitute an Alert, Site Area Emergency or a General Emergency. This transfer of emergency response functions may also be implemented for less severe events, at the discretion of the Shift Manager.

The primary consideration is to ensure that the activities and the number of personnel involved with the emergency in and around the Control Room shall not impair ~~the safe and orderly shutdown of the reactor or~~ the operation of plant safety systems.

7.1.2 Technical Support Center (TSC)

Activation and the location of the TSC or OSC may be modified by the Shift Manager if the safety of incoming personnel is in question. Locations for consideration of ventilation include:

1. The JAFNPP Training Building
2. The JAFNPP Technical Library
3. The Emergency Operations Facility
4. The Alternate OSC.

Other locations may also be considered.

The TSC is a facility external to the Main Control Room from which plant management and technical support personnel may operate during emergency situations. It is also the facility from which technical support is provided during recovery operations. The TSC will be operational within approximately sixty minutes of the notification of an ALERT, SITE AREA EMERGENCY, or GENERAL EMERGENCY. It may also be activated for an UNUSUAL EVENT at the discretion of the Shift Manager. The activation of the TSC is described in EN-EP-610, TECHNICAL SUPPORT CENTER (TSC) OPERATIONS. The TSC is located in the old Administration Building on the second floor within a two minute walk of the Main Control Room. The TSC is close to normal plant administrative offices which can provide additional documentation and equipment use in the TSC.

Assessment activities as well as coordination of corrective and protective actions for most emergency situations will be performed in this facility. These functions may include:

1. Providing guidance to the Control Room operating personnel.
2. Providing plant systems support for management personnel in the EOF during recovery operations.
3. Communication with other emergency response centers.
4. Providing direction to emergency coordinators.
5. Acting as the primary information source to the EOF and the NRC for plant operations.

This center provides an area outside of the Control Room in which to conduct the technical support functions necessary for the control of an emergency situation. These functions include:

1. Capability to display real-time plant status.
2. Capability to transmit plant status data.
3. Capability to communicate with the Control Room and the NRC.
4. Availability of plant systems drawings and other documents for decision making purposes.

The TSC is equipped with appropriate communications and other equipment to perform the above mentioned functions.

7.1.3 Operations Support Center (OSC)

The OSC is located on the 272' elevation of the old Administration Building, and is the staging and dispatch area for all:

1. Maintenance and Instrument and Control technicians from which personnel will be selected and dispatched to emergency assignments.
2. Radiation Protection Specialists and Chemistry technicians who will be dispatched to obtain in-plant radiation measurements and samples.
3. Damage Control Teams.
4. Search and Rescue Teams.

The OSC is located near a Health Physics checkpoint. The issuance of personnel dosimetry, as well as monitoring and decontamination of personnel, may be accomplished in the OSC. Some specialized equipment is available for use in the OSC and is listed in procedure SAP-2. The Operational Support Center has communications equipment, with which to control OSC related activities, either installed or readily available.

The OSC will be activated upon the declaration of an ALERT, SITE AREA EMERGENCY, or GENERAL EMERGENCY. It may also be activated for an UNUSUAL EVENT at the discretion of the Shift Manager. Activation and operation of the OSC will be in accordance with EN-EP-611, OPERATIONS SUPPORT CENTER (OSC) OPERATIONS.

7.1.4 Backup Operational Support Center (BOSC)

The BOSC is located in a work area adjacent to the JAFNPP Control Room. If conditions warrant, and as directed by the JAFNPP Shift Manager or Emergency Plant Manager, OSC personnel shall move to and equip this facility. The BOSC is an area with same habitability design as the JAFNPP Control Room. (The 300 ft elevation outside the Control Room and within the TSC ventilation boundary may also be used if habitability conditions warrant. This area has the same habitability design as the TSC). Additional locations may be established as directed by the Shift Manager or Emergency Plant Manager, if needed. This facility could further be used to provide a TSC work area.

7.1.5 Emergency Operation Facility (EOF)

The Emergency Operation Facility is located near the Oswego County Airport on Rt. 176. This location is outside of JAFNPP security fence and the 10 mile EPZ and is within 30 minutes ground travel time from the TSC. The EOF will be the location where the following functions are to be performed.

1. Overall management of Entergy emergency response and recovery resources.
2. Evaluation, coordination, and communication of Entergy emergency response activities with Federal, State, and County emergency response organizations.
3. Determination/verification of the magnitude and effects of actual or potential radioactive releases from JAFNPP, as initially calculated in the Control Room.
4. Receipt and coordination of field radiological survey data and sample media at the adjacent Environmental Lab.
5. Making recommendations to offsite agencies regarding protective actions.
6. Initial communications with Public Information Personnel.

The EOF will be activated following the declaration of an ALERT, SITE AREA EMERGENCY or GENERAL EMERGENCY. The EOF will be Operational and/or take Command and Control within approximately one hour. It may also be activated for an Unusual Event at the discretion of the Shift Manager. The activation of the EOF is described in EN-EP-609, EMERGENCY OPERATIONS FACILITY (EOF) OPERATIONS.

The Emergency Operations Facility also services for Recovery. This area has sufficient space available for personnel and equipment necessary for planning and arranging recovery activities. Systems are provided for communications with other centers.

An emergency diesel generator is available for use at the EOF.

7.1.6 Joint Information Center (JIC)

The Joint Information Center is located next to the Oswego County Airport on Co. Rt. 176 in the Town of Volney. This facility will serve as the central location for release of all information from Entergy, as well as from local and State agencies to the news media.

The JIC is equipped to accommodate the news media for large briefings and conferences. Recording capability for briefings is included. Telephones are provided for the use of reporters. Off-air radio and television monitoring and recording capability is provided to alert Entergy and other representatives to incorrect information or rumors which may be broadcast. This information will then be corrected during briefings.

Rumor control will also be provided using a group of telephones at the JIC. Responses to media telephone inquiries will be handled by additional telephones at the JIC.

The Joint Information Center will be activated at the declaration of an ALERT, a SITE AREA EMERGENCY or GENERAL EMERGENCY. It may also be activated at a lesser emergency classification at the discretion of the Shift Manager.

The facility may be declared operational at the discretion of the Entergy Spokesperson prior to a Site Area Emergency.

An emergency diesel generator is available for use at the JIC.

7.1.7 Oswego County Emergency Operations Center (OCEOC)

The Oswego County Emergency Operations Center is located in the Emergency Management Office, County Branch Building, Fulton, NY. The County Warning Point is located at the E-911 Center. Communication systems are manned 24-hours per day at this warning point. Upon activation by the Oswego County Emergency Management Office, communications, planning and coordination personnel will be available for emergency response.

A representative from JAFNPP will be dispatched to this facility to act as a liaison between the County and Entergy, when requested by County Officials.

7.1.8 State Emergency Operations Center

The State Emergency Operations Center is located in the substructure of the Public Security Building No. 22, State Office Building Campus, Albany, NY. State Warning Point communication systems and the New York State Emergency Management Office are also located in this center. Communications systems operate on the around-the-clock basis. Upon activation, planning and coordination personnel will be available for emergency response.

7.1.9 Staging/Muster Area

A Staging/Muster Area with communication capabilities for contacting the Control Room and plant security is available to serve as a staging area for augmented emergency response staff if the site is under threat of or experiencing hostile action. The Staging/Muster area is the Remote Assembly Area located at the Oswego County Airport in Fulton, NY, approximately 12 miles from the JAF site. The Remote Assembly Area is adjacent to both the EOF and the Alternate TSC and Alternate OSC. Augmented emergency response staff can be staged at the Remote Assembly Area in a manner that provides rapid response to mitigate site damage as soon as the site is accessible.

7.1.10 Alternate TSC and Alternate OSC

Should the primary TSC or OSC, or the backup TSC or OSC not be available, an Alternate TSC (ATSC) and Alternate OSC (AOSC) are available. These two facilities are located in the EOF building and are positioned to take advantage of the EOF and Remote Assembly Area facilities which are in close proximity. The ATSC and AOSC have the following capabilities:

- communication with the emergency operations facility, control room, and plant security
- the capability to perform offsite notifications
- emergency assessment activities damage control team planning and preparation

7.2 Communications System

The JAFNPP communication capabilities include multiple systems and redundancies, which ensure the performance of vital functions in transmitting and receiving information throughout the course of an emergency. Figure 7.1 shows the communication systems available and the primary communication links. As can be seen on the diagram, multiple communication modes and paths are available for emergency communications.

Following is a list of available communications systems along with a brief description of each:

7.2.1 Page/Party System (In-Plant)

- Control Room
- Technical Support Center
- Operational Support Center
- Office Area
- Other Plant Areas

The page/party system (Gaitronics) is comprised of a page channel connected to loudspeakers throughout the plant and three channels. System functions allow multiple personnel to participate in a conversation on each of the channels. The page system is also used for announcements and plant alarms.

The alarm mode must be initialized from the Control Room, but the conversation features are available in all emergency response facilities onsite and throughout the plant.

7.2.2 Sound Powered Phone System (In-Plant)

- Control Room
- Technical Support Center
- Other Plant Areas

The sound-powered phone system allows point-to-point Communications as well as multi-point communication without interference from cross-talk. This system is normally used for maintenance and testing but can be used for conversations between individuals performing specialized tasks (e.g., an individual in the Control Room and a technical specialist in the Technical Support Center). This system is operational from the relay room accessible from the TSC and Control Room.

7.2.3 Telephone System

- Control Room
- Operational Support Center (Primary, Backup and Alternate)
- Technical Support Center (Primary, Backup and Alternate)
- Emergency Operations Facility
- Other Plant Areas
- Entergy Headquarters (including the Corporate Emergency Center)
- Various Offsite Agencies

The plant telephone systems can be used for in-plant as well as outside communications. The system can be used for point-to-point or multi-point communications. Normal telephone lines are available at each emergency center.

The phone systems include many automated or programmable features that improve notification and allow communications flexibility. Cellular or satellite phones are also available at various locations.

7.2.4 Dedicated Telephone Links

7.2.4.1 Radiological Emergency Communications system (RECS)

The Radiological Emergency Communications System is a dedicated telephone network to be used for communications pertaining to nuclear emergencies at JAFNPP. The RECS system is available 24 hours per day, 7 days per week and is tested by New York State periodically.

The system consists of dedicated transmission telephones providing multi-party communication in a conferencing mode.

A station set is normally located at each of the following locations:

1. New York State Emergency Operations Center
2. New York State Watch Center
3. Alternate State Watch Center
4. State Department of Health
5. NYSOEM Regional Office
6. Oswego County Emergency Operations Center
7. Oswego County E-911 Center (Warning Point)
8. Nine Mile Point Control Rooms
9. Nine Mile Point TSC and EOF
10. JAFNPP Control Room
11. JAFNPP Technical Support Center
12. JAFNPP Emergency Operations Facility/Alternate TSC
13. NYSOEM Technical Resources
14. Joint Information Center

7.2.4.2 Other Dedicated or Special Lines

In addition to the RECS system, the following dedicated or special telephone connections exist.

- a. Control Room to:
 - NRC
 - Technical Support Center
 - NMPNS
 - EOF
 - OSC
- b. Technical Support Center to:
 - NRC
 - Control Room
 - NMPNS
 - Emergency Operations Facility
 - Operational Support Center
 - Alternate Operational Support Center

- c. Emergency Operations Facility to:
NRC
Technical Support Center
Operational Support Center
JAFNPP Rad Support Coordinator
Control Room

7.2.4.3 NRC Health Physics Network (HPN), FTS2001 Phones

This telephone system is part of the FTS2001. It is used to transmit health physics (radiological) data or other data to the NRC during an emergency. JAFNPP facilities at which these telephones are located include:

- Technical Support Center
- Emergency Operations Facility
- Several FTS2001 telephones exist at the TSC and EOF

7.2.5 Radio System

The JAFNPP radio system utilizes various frequencies at the following locations:

- Control Room radio console
- Technical Support Center radio console
- Emergency Operations Facility/Alternate TSC radio console
- Oswego County radio console
- Security Force radio console
- Portable Units
- Mobile Units

The radio system is intended to serve as a redundant communications system to the telephone system for initial notification and relaying assessment information as necessary. It is also used, in conjunction with cellular phones, to communicate with radiological survey teams.

7.2.6 Data Links

Plant Data System to:

- Technical Support Center
- Emergency Operations Facility
- Joint Information Center
- New York State
- NRC Operations Center

7.2.7 Hard Copy Transceivers (Telecopy)

- Oswego County Emergency Management Office
- Entergy Headquarters
- Technical Support Center (Primary and Alternate TSC)
- Emergency Operations Facility
- Joint Information Center
- New York State Office of Emergency Management
- Other Services as necessary

7.2.8 Alert and Notification System

In order to provide prompt notification to the public of emergency conditions, an Alert and Notification System (ANS) has been installed in the plume exposure EPZ.

The ANS consists of:

- The Alerting portion of the system, which consists of fixed sirens within the 10 mile EPZ. Figure 7-4 depicts the approximate locations of the fixed sirens within the 10 mile EPZ. As a backup to the siren portion of the alerting system, a 911-based mass notification system is available.
- The Notification portion of the system utilizes the Emergency Alert System (EAS) which consists of pre-designated radio stations that will broadcast public protective actions and other emergency news. The 911-based mass notification system can also act as a backup to the EAS portion of the notification system.

The design objectives, construction, operation and maintenance of the ANS meets or exceeds all of the relevant criteria for ANS delineated in NUREG-0654 and FEMA-REP-10. The above ANS attributes are described in "Design Report, Nine Mile Point Nuclear Generating Station and James A. Fitzpatrick Nuclear Power Plant, Public Alert and Notification System, Revision 1, November 2015" which was approved by FEMA in January 2016.

In accordance with instructions provided during periodic public information programs (Section 8 of the Plan), the alerted population will turn to EAS radio stations for emergency information and instructions. Nine Mile Point Nuclear Station and J.A. FitzPatrick shall provide the hardware for the ANS within the plume exposure pathway EPZ.

The responsibility for activation of the public warning system rests with the Oswego County Emergency Management Office. This organization will activate the alert portion of the ANS and supply appropriate emergency messages to the EAS station serving the

jurisdiction in accordance with the provisions of their emergency response plans.

Reportability criteria for the Alert and Notification System failure is consistent with NUREG 1022 and industry guidance.

7.3 Assessment Facilities and Systems

7.3.1 Onsite Assessment Facilities

Initially following an emergency, the primary onsite emergency assessment facility is the Control Room. This assessment function is transferred to the TSC after that facility has been activated. These facilities are described in Section 7.1.

Post-accident radiological samples may be analyzed in the JAFNPP radiochemistry laboratory if background radiation levels permit. This in-plant laboratory has full computer/HPGe gamma spectral, gross beta and gross alpha analysis capabilities.

7.3.2 Offsite Assessment Facilities

In addition to the in-plant radiochemistry laboratory, the services of an environmental laboratory are available, which can be used for post-accident radiological sample analysis. This environmental laboratory has full computer/HPGe gamma spectral and gross beta analysis capabilities. That service is listed as a Letter of Agreement in Appendix C.

Post-accident radiological samples can be sent to the Nine Mile Point Nuclear Power Station radiochemistry laboratory in the event that the JAFNPP in-plant and contracted environmental laboratories are unavailable for any reason, such as high background radiation levels, or operation at full capacity.

If the above facility cannot perform the analyses or cannot handle the number of analyses required, samples can be sent to the R.E. Ginna Nuclear Power Plant laboratory, located near Rochester, about an hour away by car.

7.3.3 Assessment System

7.3.3.1 Plant Radiation Monitoring Systems

This system, consisting of process and area radiation monitors, provides for personnel protection and accident assessment by measuring and recording radiation levels and radioactivity concentrations at strategically selected locations throughout the plant. The systems are described in the following paragraphs.

~~Post Accident Sampling System (PASS)~~

~~The post accident sampling system shall provide means of obtaining primary and secondary containment atmosphere samples for determination of gas composition by means of gas chromatography, and for performing radiochemical analysis of noble gas, iodine, and particulate activities. Liquid samples shall be taken from the suppression pool and from the reactor coolant system under design conditions of temperature and pressure.~~

~~The system is designed in accordance with the criteria set forth in NUREG-0578 with regard to post accident sampling system performance and scope of radiochemical analysis.~~

~~An in-line conductivity cell is used as the primary indicator of liquid chemical concentrations and changing chemical conditions. For rapid characterization of samples, pH paper may be used to establish pH to within ± 0.5 pH units at high conductivities. The post accident laboratory will have the ability to perform accurate chloride and pH determinations. The use of an in-line conductivity cell adequately satisfies the immediate need for chemical information without detailed analysis and eliminates unnecessary personnel exposure and the risk of major laboratory contamination. The system has the capability to provide a 1 to 1000 dilution of liquid samples to permit handling using existing facilities. Specific provisions for boron analysis are not included in the system. The only time boron would be present in the reactor coolant system is when the injection of sodium pentaborate was manually initiated from the Control Room via the standby liquid control system. In this case, an increase in reactor coolant system conductivity would indicate injection of the sodium pentaborate solution.~~

~~Liquid samples may be drawn from the reactor coolant system via instrument lines in the reactor water recirculation system and the shutdown cooling configuration of the residual heat removal system. The suppression pool may be sampled from the core spray pumps or via the suppression pool cooling mode of the residual heat removal system.~~

~~Provisions have been made to obtain gas samples from the drywell and suppression pool atmospheres and from the secondary containment (Reactor Building).~~

~~The gas sampling system is designed to operate at pressures from sub-atmospheric up to the design pressures of the primary and secondary containments. Heat traced sample lines prevent precipitation and subsequent loss of iodine in the lines. Gas samples may be passed through a particulate filter and silver zeolite filter for the determination of particulate activity and total iodine by analysis of the samples in a gamma spectrometer system. The system provides for grab sampling to allow analysis of gaseous activity as well as the dilution of high activity samples.~~

~~Main Steam Line Radiation Monitoring System~~

~~The objective of the main steam line monitoring system is to continuously monitor for the gross release of fission products from the fuel. Indication of such a failure will initiate an alarm condition. The monitoring system consists of four gamma sensitive ionization chambers, logarithmic radiation monitor and dual pen recorder.~~

~~Off Gas Radiation Monitoring System~~

~~The objective of the off-gas radiation monitoring system is to continuously monitor radioactive effluents from the main condenser to the environment via the off-gas treatment system. This radiation monitoring system initiates closure of the off-gas isolation valve after a time delay when off-gas radiation levels exceed a preset limit. This system consists of two identical channels each consisting of a gamma sensitive ionization chamber and logarithmic radiation monitor. Both channels provide input to a dual pen recorder. The off-gas system is also equipped with sampling sub-system to allow for periodic grab sampling for laboratory analysis.~~

- Main Stack (Off-Gas Vent Pipe) Radiation Monitor

This subsystem monitors the release of radioactive material to the environment via the main stack, which receives inputs from the off-gas system and the standby gas treatment system. Isokinetic probes in the stack provide a representative sample of the effluent to the detection system. This system consists of a pair of gamma sensitive scintillation detectors. The output of these detectors is displayed in the Control Room on logarithmic radiation monitors and multipen recorders.

The High Range Effluent Monitoring System consists of three noble gas monitoring units connected in line with existing effluent monitors. One unit each is connected upstream of the turbine building exhaust sampler, the radwaste building exhaust sampler, and main stack effluent monitor.

Each monitoring unit contains two redundant ion chamber detectors. Associated with each detector is a meter type readout module in the main Control Room panel 09-2, having a range of 1E-1 to 1E+7 mR/hr. In addition to meter readouts, these modules supply digital outputs for annunciation of failure, high radiation ("alert") and high-high radiation. They also supply analog outputs for trend recording and computer logging.

The monitoring units also supply analog and digital outputs to the plant process computer. Digital outputs indicate failure, high, or high-high radiation conditions.

- Service Water and Reactor Building Closed Loop Cooling Water System Monitors

Each of these systems provides cooling water to various heat exchangers for the cooling of systems which may contain radioactive material. These continuous monitoring systems are used to detect leakage and prevent an inadvertent release of radioactive material to the environment. Each of these monitors consists of a gamma-sensitive scintillation detector in a shielded sampling chamber. Activity above a preset level is annunciated in the Control Room.

- Radioactive Waste Effluent Radiation Monitor

This subsystem is used for the control of discharges of low activity liquids. It is similar in design to other water monitoring systems. In the event activity exceeds a predetermined level, the trip unit of this system sends an isolation signal to the discharge valve of the liquid radwaste system.

- Ventilation Monitoring Systems

Ventilation monitoring systems are used to continuously monitor releases from building ventilation systems, provide alarms when releases approach preset levels, isolate ventilation systems to protect the environment, and maintain habitability of the Control Room. The monitors for the radwaste building, turbine building and reactor building are similar. They consist of a sampling pump, sample chamber, GM radiation detector, and logarithmic display. The monitors also contain in-line particulate and activated charcoal filters which are analyzed to provide a precise determination of releases to the environment. Alarms for high activity and inoperable detectors are provided in the Control Room. The reactor building ventilation monitors have two channels.

If effluent activity exceeds a preset level on either channel, the normal reactor building ventilation system is isolated and the standby gas treatment system is initiated.

The Control Room air inlet is continuously monitored by an in-line GM-type radiation detector. Indication is provided in the Control Room and an alarm is received if activity in the Control Room ventilation intake approaches preset levels.

~~Drywell Continuous Airborne Radioactivity Monitors~~

~~The drywell continuous airborne radioactivity monitor consists of two redundant systems. Each of these contains a sampling pump, sample chamber, gamma sensitive scintillation detector and filter chambers. Each system provides continuous indication of particulate and noble gas activity. The system also provides for sampling and analysis of halogens/iodine.~~

- Iodine Monitoring

Routine monitoring of ventilation exhausts for iodine is accomplished by the use of in-line activated charcoal filters. These filters are periodically changed and analyzed in a gamma spectrometer. Routine grab sampling is performed using portable sampling pumps fitted with particulate and activated charcoal filters and are similarly analyzed. Continuous air monitors are also located in various areas of the plant and monitor gross airborne activity, as well as halogen activity.

Monitoring during off-normal conditions can be accomplished by the use of portable sampling pumps equipped with particulate filter and silver zeolite cartridge. The silver zeolite cartridge can be analyzed in a low background area using a count rate meter for immediate determination of total iodine.

Cartridges can be analyzed using gamma spectrometry in either the JAFNPP counting laboratory, an environmental laboratory, or the adjacent NMPNS laboratory. The silver zeolite cartridges have an iodine retention in excess of 99% while retaining only traces of noble gases. Particulates are removed using a pre-filter. Thus gamma spectrometry is not necessarily required to make a rapid estimation of airborne radioiodine. The count rate obtained using the silver zeolite cartridge is then multiplied by a correction factor to determine the concentration of airborne radioiodine. Using this method it is possible to attain the required minimum detectable activity of $1\text{E-}7 \text{ } \mu\text{Ci/cc}$.

~~Containment Radiation Monitors~~

~~Monitoring of radiation levels within the primary containment (drywell) is accomplished using two redundant high range ($1E+8$ rem/hr) ionization chambers. These detectors are located in approximately opposite locations in the drywell. Indications of radiation levels and alarms for high radiation conditions are provided in the Control Room.~~

~~As an aid in assessing the extent of potential core damage, plots have been developed which can be used to correlate containment radiation monitor reading versus time to varying percentages of fuel inventory in containment. The information obtained from these plots can also be correlated to the source term available for release and can thus be used in determining potential offsite protective action recommendation. These plots have been incorporated into EAP 4.1, RELEASE RATE DETERMINATION.~~

- Area Radiation Monitoring System

The fixed area radiation monitoring system consists of thirty units located throughout the plant. Each unit consists of gamma-sensitive GM tube encased in a protective cylinder. Indication of radiation levels is provided in the Control Room on logarithmic radiation monitors and multi-point recorder. Local indication is provided at many locations. The most common ranges are 0.1 to 1000 mR/hr. Monitors in areas such as laboratories, offices and Control Room range from 0.01 to 100 mR/hr. A high range radiation monitor on the refueling floor ranges from 0.1 to 1000 R/hr.

- High Range Effluent Monitor (HREM)

Three HREM systems have been installed at JAF. The systems were installed to monitor unusually high level stack, turbine building and radwaste building noble gas releases. Each system consists of a large volume sample chamber and two independent gamma sensitive instrument channels. The instrument readouts and recorders are located on a back panel in the main control room. Computer and annunciator alarms alert plant operators of unusual noble gas releases. A detailed HREM interpretation is contained in SP-03.08 series of procedures.

7.3.3.2 Fire Protection Systems

Fire protection in the plant is provided by a complete network of fire suppression and extinguishing systems. These systems are associated with fire alarms and are activated by a variety of thermal and products of combustion fire detection devices located throughout the plant.

7.3.3.3 Geophysical Phenomena Monitoring System

Monitors are provided for detecting and recording natural phenomena events which could result in plant damage due to ground motion or structural vibration and stress.

Backup information can be obtained from the NMPNPS which also has seismic detectors or a local National Weather Service Station.

Hydrologic conditions (e.g., floods, low water, hurricanes) would be observed by the shift operating crew and / or information would be provided by the U.S. Coast Guard, or a local National Weather Service Station.

7.3.3.4 Environmental Radiological Monitoring Systems

There are 15 environmental radiological monitoring stations, as shown in Figure 7.2 and 7.3. The inner ring of monitoring stations, designated the onsite monitoring stations, surround the plant at a radius of approximately 2000 feet from the plant. The outer ring of monitoring stations, designated the offsite monitoring stations, surround the plant at a radius which varies from approximately 6 to 15 miles from the plant.

Each of the 15 monitoring stations continuously collects a particulate and iodine air sample. A continuously operating sample pump draws air through a two inch diameter glass fiber filter followed in the flow path by a two inch diameter by one inch thick charcoal cartridge.

The Technical Specification Environmental Monitoring Stations located at the site boundary, (R1, R2, R3 and R4), and the offsite Environmental Station (R5) each have a direct radiation monitor. The radiation monitors are Eberline Model ERM-2 which consist of a GM detector with an associated power supply and provides a digital dose rate readout. Historical (prior month) monitor readings may be obtained using a computer (PC) interface to access the monitors internal storage ROM. Each radiation monitor has an operating range of 1 μ R / hr to 100 mR / hr. The radiation monitors are used to detect and measure dose rates resulting from possible plume releases of radioactive material from the plant. Each of the 15 monitoring stations has the capability for collecting precipitation samples, if required.

7.3.3.5 Environmental Dosimeter of Legal Record (TLD/DLR) Monitoring Systems

The environmental TLD/DLR monitoring system is comprised of TLD/DLR stations placed on and around the site as shown in Figures 7.2 and 7.3.

The first group of TLD/DLRs is located within the site boundary. This group consists of TLD/DLR stations ranging in distance from adjacent to the plant buildings to approximately 0.9 miles from the plant.

The second group of TLD/DLRs is located beyond the site boundary. This offsite set consists of TLD/DLR stations ranging in distance from approximately 0.6 to 12 miles from the plant.

The current placement of environmental TLD/DLRs is in accordance with the approved Technical Specifications for the site and conforms to the NRC Radiological Assessment Branch Technical Position.

Each environmental TLD/DLR station is comprised of TLD/DLRs sealed in a polyethylene package to ensure dosimeter integrity. The TLD/DLR packages are further protected by placement in plastic enclosures, or by tape sealing to supporting surfaces.

The TLD/DLRs are collected, replaced and evaluated quarterly.

7.3.3.6 Emergency TLD/DLR Monitoring System

In addition to the environmental TLD/DLR monitoring system, a second group of TLD/DLRs called emergency TLD/DLRs has been placed in various locations around the site (as described in procedure EAP-5.3). These TLD/DLRs are evaluated as necessary.

The TLD/DLR chips are renewed quarterly.

7.3.3.7 Meteorological Measuring System

Wind speed, wind direction and temperature sensors are installed on an isolated tower at elevations of approximately 30 feet, 100 feet and 200 feet above grade. The data collected by these sensors are telemetered to the JAFNPP Control Room and TSC and are continuously recorded on strip charts or digital recorders.

This data is also available in the CR, TSC and the EOF in digital form.

Joint frequency distributions of wind speed and direction by atmospheric stability class are maintained to aid in the evaluation of radiation doses which may result from the release of radioactive material from the plant.

As a backup to the primary meteorological measuring system, JAFNPP has an onsite atmospheric sensor with the ability to measure the wind speed and direction at the approximately 90 foot level. The recorders for the backup system are located on the same Control Room and TSC panel as the recorders for the primary system, thus permitting instantaneous, real time readings from two sources. A 30 foot inland tower is also an additional source of meteorological data. These sensors also have digital readouts in the CR, TSC and EOF.

Offsite backup for meteorological data is available from the National Weather Service by telephone.

An additional source of meteorological information is available through online information services. The information services collect weather information comprised of surface and upper air reports, satellite and radar information and other meteorological data on a continuous basis from sources around the world. Access to this data is available by JAF personnel through an internet computer link.

7.3.3.8 Emergency Radiological Survey Teams

Survey teams may be dispatched to provide immediate support for both onsite and offsite emergency condition assessment. Teams will be provided survey kits composed of adequate portable instrumentation and instruction packages to permit the monitoring of airborne gamma and radioiodine levels and the acquisition of environmental media samples. A listing of available equipment for use by the survey teams is contained in SAP-2, EMERGENCY EQUIPMENT INVENTORY.

The team's activities will be controlled by the Emergency Director, Radiological Coordinator or Radiological Assessment Coordinator, or designee. Cellular phone and / or radio contact will be provided between the plant and survey teams.

Initial responsibilities for each team will include direct radiation measurements and the collection of airborne particulate and iodine samples. Following field evaluations, the collected samples will be individually packaged and identified to permit subsequent re-evaluation, if required. Monitoring locations for the initial surveys may be the locations identified in Figures 7.2, 7.3 and 7.6 and/or other locations as determined by the Emergency Director, Radiological Coordinator, Radiological Assessment Coordinator, or designee.

The survey teams may participate in the collection of samples from the fixed assessment systems described in Sections 7.3.3.4, 7.3.3.5 and 7.3.3.6. The teams will also expand their sampling activities to include collection of environmental media as dictated by the Emergency Director, Radiological Coordinator or Radiological Assessment Coordinator, or designee. Representative media referenced in the Site Radiological Environmental Monitoring Program will be sampled on an increased frequency commensurate with prevailing conditions. In addition to the airborne particulate samples, airborne iodine samples and the TLD/DLRs previously described, environmental media samples may include milk, soil, water and vegetation.

A full description of the radiological monitoring capabilities is described in Section 6, EMERGENCY MEASURES, 6.2.2 Field Radiological Assessment.

7.3.3.9 Process Monitors (Spent Fuel Pool)

Spent Fuel Pool diagnostic indication is provided in the Control Room through annunciation and area radiation monitoring, as well as local indications.

~~Plant parameters such as reactor coolant system level and pressure, containment pressure and temperature and various system flow rates are indicated in the Control Room.~~

~~Such parameters are also available in the TSC and EOF via the Safety Parameter Display System (SPDS).~~

7.4 Protective Facilities

Facilities are provided which ensure adequate radiological protection for personnel assigned to emergency duties in the plant, and for the accommodation of other personnel evacuated from areas that may be affected by radiation and / or airborne radioactivity or other actions that may restrict access to the site.

7.4.1 Plant Control Room

In addition to serving as the initial control location for emergency situations, the plant Control Room has the following features which provide protection for personnel who may have emergency or operational duties throughout the course of any emergency:

1. Adequate shielding by concrete walls to permit continuous occupancy under severe accident conditions.
2. An independent emergency air supply system, equipped with absolute and activated charcoal filters.
3. Continuous monitoring of radiation levels in the Control Room and throughout the plant by the ARM system, with readout in the Control Room.
4. Emergency lighting and power supplied by a 125V dc system and battery packs.
5. Communications system, as described in Section 7.2.

Additional details regarding the design and inherent protective capabilities of the plant Control Room are discussed in the JAFNPP FSAR.

7.4.2 Technical Support Center (TSC)

The TSC serves as the long range emergency control facility. To allow for long-term human occupancy during an emergency situation, the following personnel protective features have been incorporated into design.

1. Adequate shielding by concrete walls to permit continuous long-term occupancy under severe accident conditions. (Certain areas of the TSC may not be used under certain radiological conditions).
2. An air handling system equipped with HEPA filters to provide proper breathing air during a severe radiological accident.
3. Communications systems as described in Section 7.2.
4. Emergency lighting supplied by a 125V dc system and battery packs. Emergency power is supplied to some receptacles via a plant UPS.
5. Continuous monitoring of radiation and airborne activity levels in the TSC.

7.4.3 Primary Assembly Areas

Specific locations at the plant are designated for assembly of personnel in the event of a Protected Area Evacuation. These areas provide space to accommodate personnel who may be at the plant. They are located on the basis of logical access routes and physical separation from likely areas of radiation and / or airborne radioactivity. See Procedure EAP-10, PROTECTED AREA EVACUATION for a listing of primary assembly areas.

7.4.4 Remote Assembly Area

The Oswego County Airport is designated as a remote assembly area, which provides the function of a staging/muster area.

This facility is located approximately 12 miles from the site on County Route 176 in the Town of Volney (Fulton, N.Y.). It is adjacent to the EOF/JIC and is away from the prevailing downwind direction.

Employee vehicles shall be used to transport employees to the Remote Assembly Area. Backup bus transportation is available from the Oswego County Emergency Management Office upon the Emergency Director's request. Evacuated

personnel and vehicles can be decontaminated at this site if necessary.

7.5 Onsite First Aid and Medical Facilities

First aid treatment facilities, equipped with industrial first aid supplies, are located on the first floor of the Administration / Support Building.

7.6 Decontamination Facilities for Emergency Personnel

The personnel decontamination facilities at the JAFNPP and/or the EOF will be the primary facilities for decontaminating emergency personnel. If those facilities are unavailable for any reason, emergency personnel may be decontaminated at the NMPNPS facility.

The liquid waste from each of these decontamination facilities would be disposed of in the respective plant or facility liquid radwaste system. Solid waste would be disposed of in containers provided for this purpose.

A typical listing of personnel decontamination equipment is contained in the Radiation Protection Procedures.

7.7 Damage Control Equipment

Damage control equipment consists of normal and special purpose tools and devices used for maintenance functions throughout the plant. Personnel assigned to damage control teams are trained and participate in drills and exercises in accordance with SAP-1, MAINTAINING EMERGENCY PREPAREDNESS. Guidance for damage control teams is contained in EAP-13, DAMAGE CONTROL.

7.8 Control of Emergency Equipment

A list of emergency equipment and kits is included in Appendix I, EMERGENCY EQUIPMENT KITS. The frequency of emergency equipment maintenance is specified in procedure SAP-2.

7.9 Federal Response Support

Information vital to Federal Response Support is contained in Appendix N, TYPICAL FEDERAL SUPPORT RESOURCES. Information on security access is presented in EAP-23, EMERGENCY ACCESS CONTROL.

7.10 Figures, Forms and Attachments

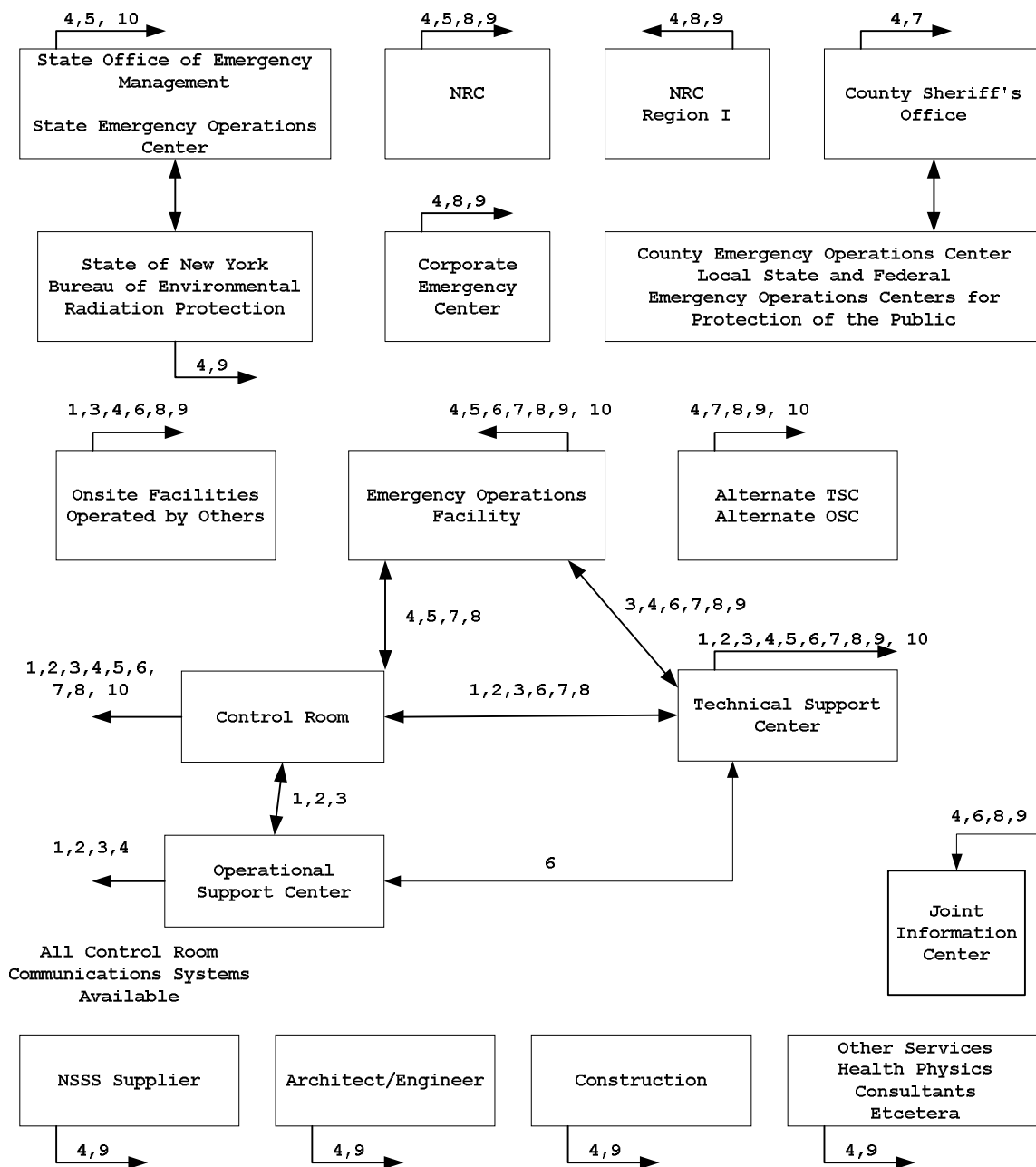
Figure 7.1 Emergency Communications Network

Figure 7.2 Onsite Environmental Station and TLD/DLR Locations

Figure 7.3 Offsite Environmental Station and TLD/DLR Locations

Figure 7.4 Siren Locations Map

Figure 7.5 Offsite Survey Locations Map



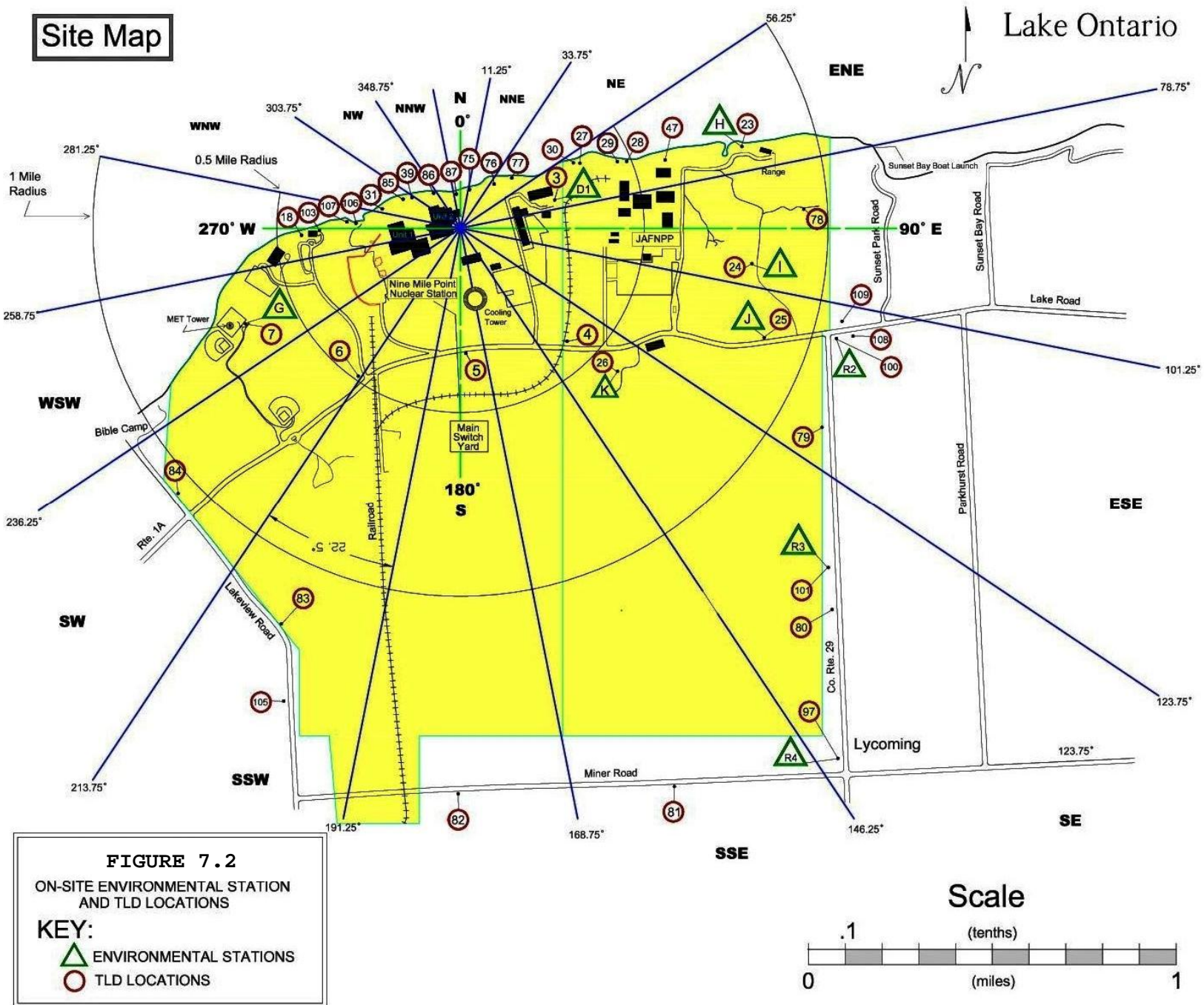
All Control Room
Communications Systems
Available

Communications Systems
(Corresponding Numbers)

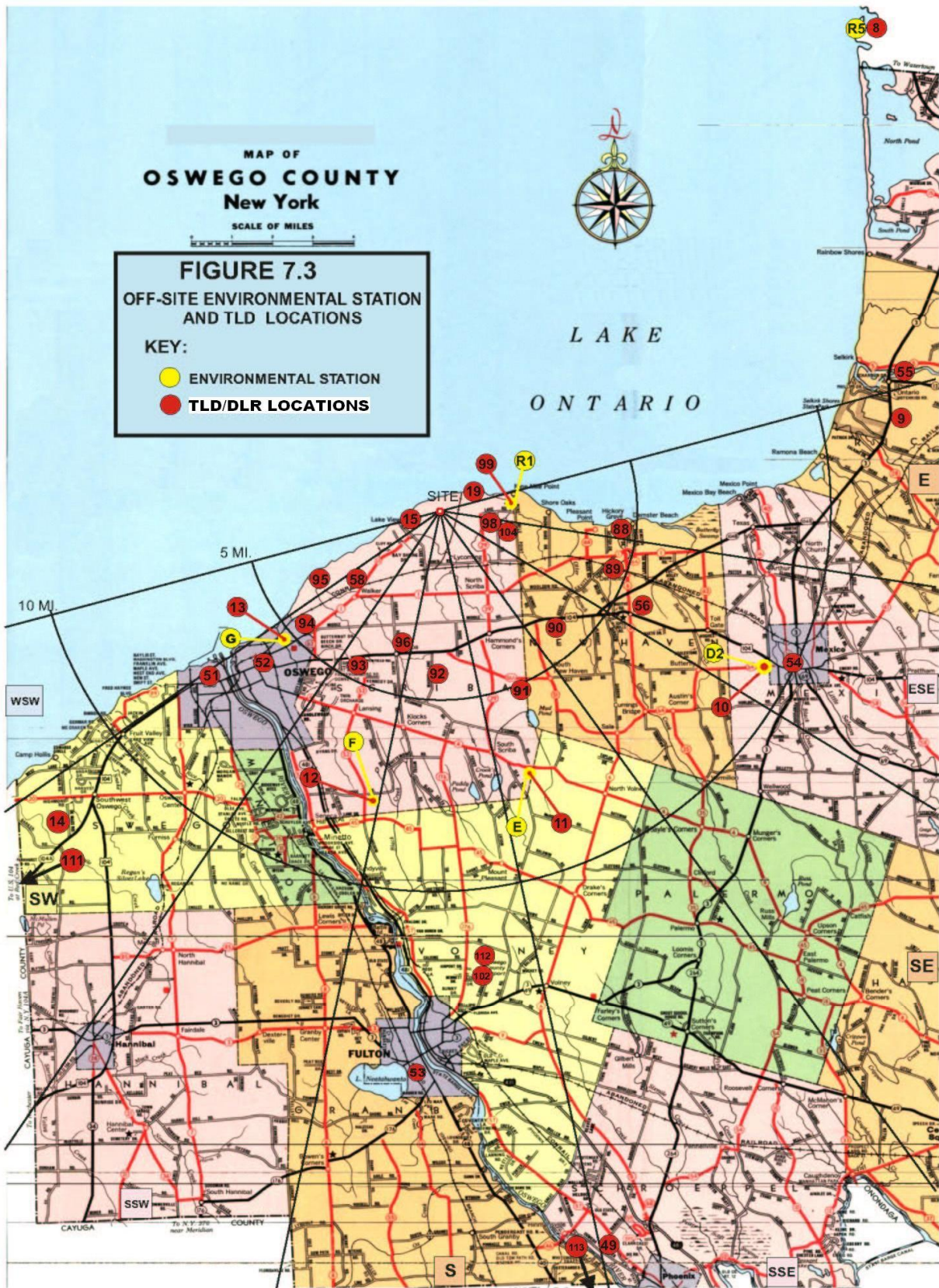
1. Page/Party System (In-Plant)
2. Sound-Powered Phone System (In-Plant)
3. Telephone - In-Plant
4. Telephone - Outside/Normal Line
5. Telephone - Auto Dial
6. Telephone - Dedicated Line
7. Radio
8. Data Link
9. Hardcopy Transceiver (Telecopy)
10. Satellite phone

J.A. FITZPATRICK NUCLEAR POWER PLANT
EMERGENCY PLAN
FIGURE 7.1
EMERGENCY COMMUNICATIONS NETWORK

G:\EPLAN PROCEDURES\SECTION 7\FIG7-
1.vds



G:\EPLAN PROCEDURES\VOLUME 1\SECTION 7\SECTION 7 FIGURE 7.2



G:\EPLAN PROCEDURES\VOLUME 1\SECTION 7\SECTION 7 FIGURE 7.3

FIGURE 7.4 - SIREN LOCATIONS
MAP NUMBER 6
PAGE 1 OF 2

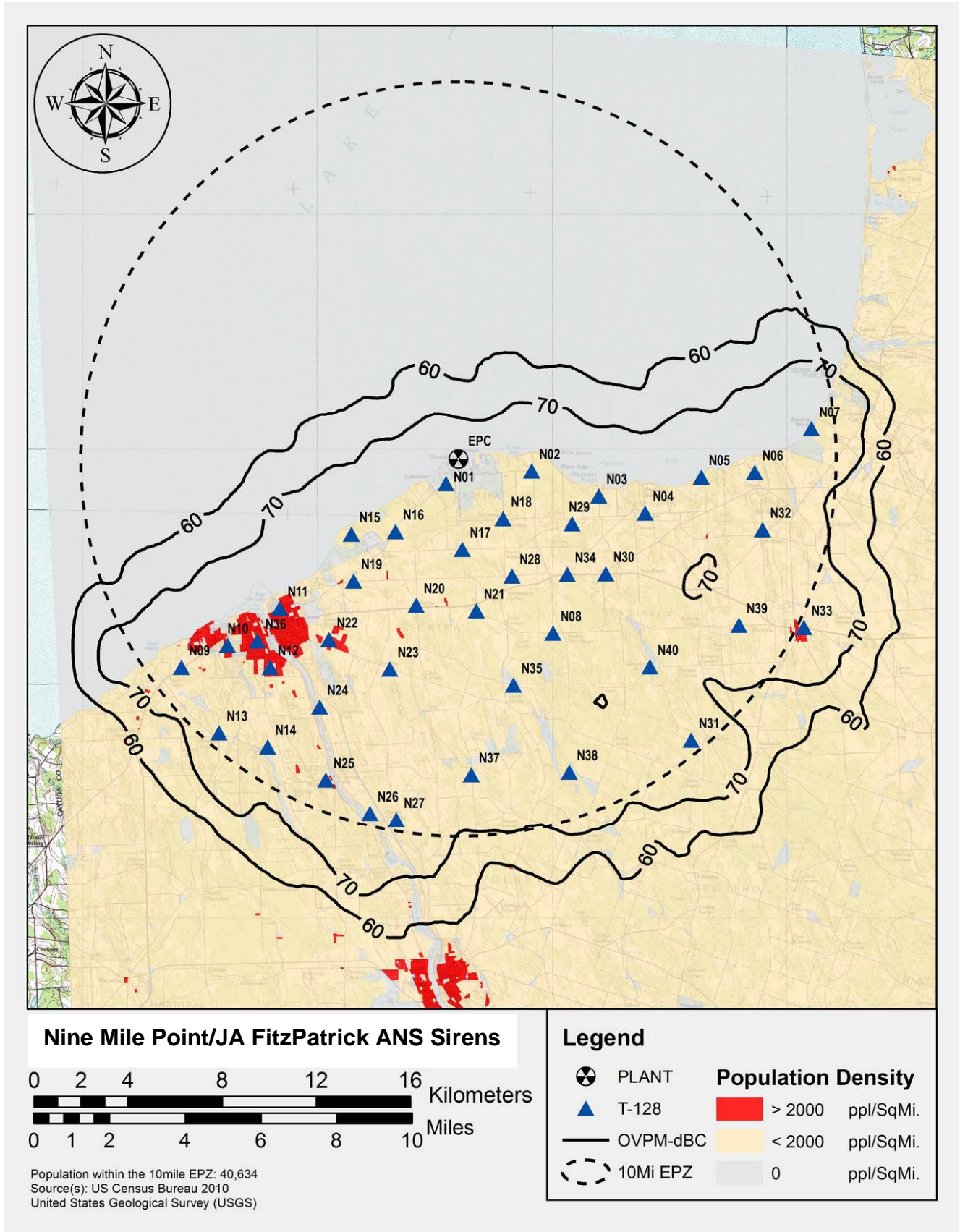


FIGURE 7.4 - SIREN LOCATIONS
MAP NUMBER 6
Page 2 of 2

To search for the map do the following in Merlin:

- 1.) Log onto Merlin Reference Library via the intranet
- 2.) Type in your user name, pass word, and group is general
- 3.) Click on general records
- 4.) In the Document ID area type in Section 7 and hit search
- 5.) Highlight the row that has title - "Figure 7-4 Emergency Facilities and Equipment"
- 6.) Select view from top
- 7.) Select preview
- 8.) The map should appear and you can resize it if you like
- 9.) The document is MAP NUMBER 6 - SIREN LOCATIONS
- 10.) Map may be printed on any size paper for expansion and ease of reading, depending on printer selected.

FIGURE 7.5 - OFFSITE SURVEY LOCATIONS

MAP NUMBER 4

Page 1 of 2

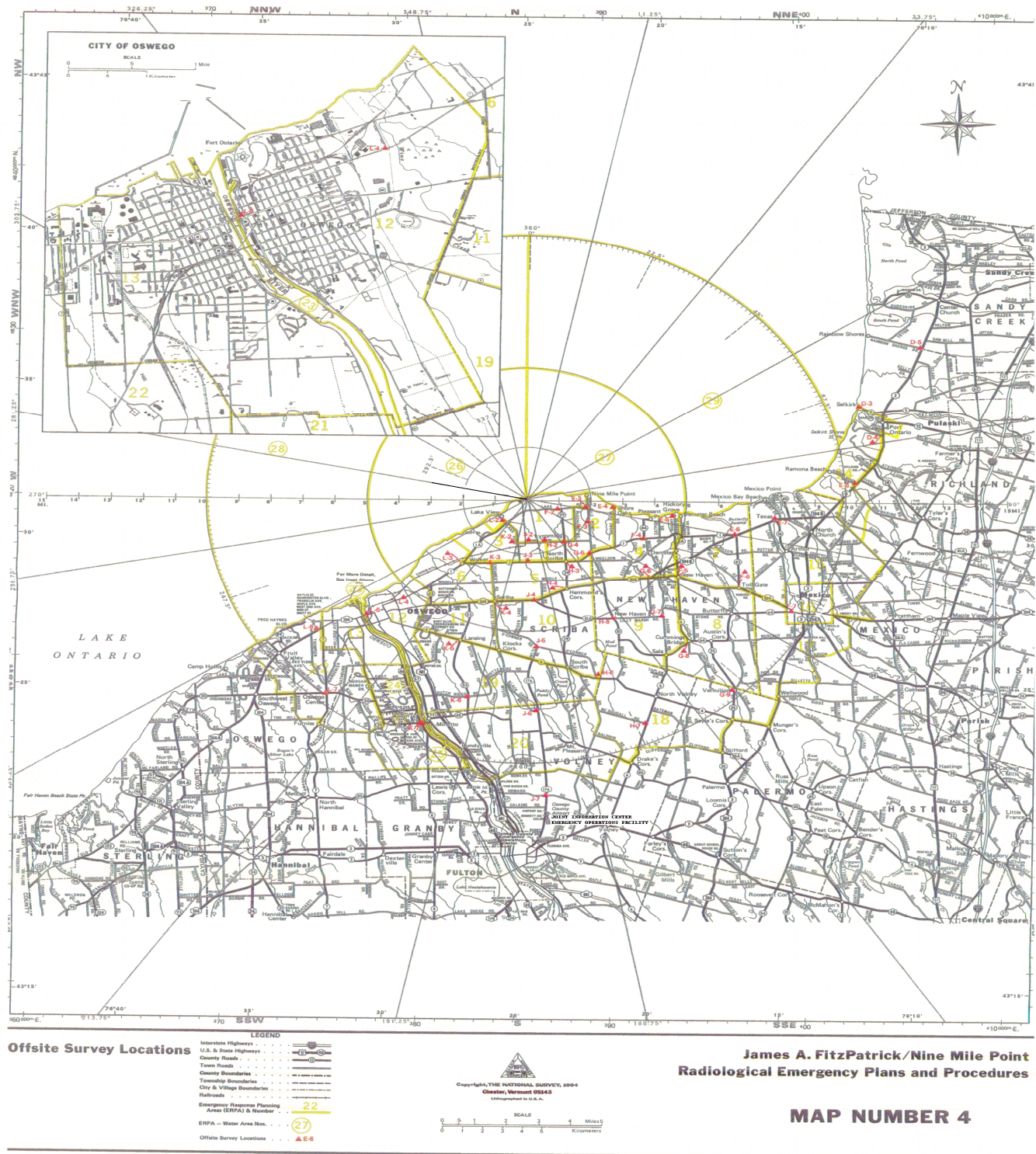


FIGURE 7.5 - OFFSITE SURVEY LOCATIONS

MAP NUMBER 4

Page 2 of 2

To search for the map do the following in Merlin:

- 1.) Log onto Merlin Reference Library via the intranet
- 2.) Type in your user name, pass word, and group is general
- 3.) Click on general records
- 4.) In the Document ID area type in Section 7 and hit search
- 5.) Highlight the row that has title - "Figure 7-6 Emergency Facilities and Equipment"
- 6.) Select view from top
- 7.) Select preview
- 8.) The map should appear and you can resize it if you like
- 9.) The document is MAP NUMBER 4 - OFFSITE SURVEY LOCATIONS
- 10.) Map may be printed on any size paper for expansion and ease of reading, depending on printer selected.

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EMERGENCY PLAN VOLUME 1

MAINTAINING EMERGENCY PREPAREDNESS

SECTION 8

EFFECTIVE DATE: _____

*****		*****	
*	*	*	*
* INFORMATIONAL USE *	*	* QUALITY RELATED *	*
*	*	*	*
*****		*****	

*	*		
* ADMINISTRATIVE *	*		
*	*		

PERIODIC REVIEW DUE DATE: ~~JANUARY 2017~~

Rev. No. ~~34~~-PENDING

REVISION SUMMARY SHEET

PENDING

Figure 8.1: Updated for permanent cessation of power operations

~~FULL REVISION 34~~

~~Change 1: Add reference to EN EP 307(Hostile Action Based Drills & Exercises) to Sections 8.4(second paragraph), 8.4.2.j and 8.4.3~~

~~Change 2: Revise Section to align with 8 year cycle for Drills and exercises, 8.4.1.d and 8.4.1.e~~

~~Change 3: Figure 8.1 -- Remove ED training for ERO positions: EPM, Lead Offsite Liaison, TSC Manager, Engineering Coordinator and Offsite Liaison~~

~~Change 4: Removed signatures and OSRC information from cover sheet~~

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8.0 MAINTAINING EMERGENCY PREPAREDNESS

Emergency preparedness is maintained at the JAFNPP through administrative controls designed to; (1) train and periodically retrain ENTERGY personnel, and offsite emergency organization personnel, (2) evaluate onsite and offsite proficiency and provide hands on experience through drills and exercises, (3) ensure that plans and implementing procedures are in place and current through document control procedures, (4) maintain sufficient stores of functional emergency equipment and supplies through equipment inventory procedures, (5) and maintain public and news media awareness of emergency preparedness through annual information updates and meetings with members of the media.

8.1 Responsibility for Maintaining Emergency Preparedness

The General Manager Plant Operations (GMPO) has overall authority and responsibility for radiological emergency response planning. The Emergency Preparedness Manager is delegated the overall authority and responsibility for radiological emergency response planning and has the responsibility for developing and updating emergency plans and implementing procedures.

Primary duties of the Emergency Preparedness Manager or Emergency Planners include coordination of training with the Training Manager for JAF personnel and with offsite organizations, scheduling and coordination of drills and exercises, maintenance of plans and implementing procedures, and maintenance and inventory of emergency equipment. The Emergency Preparedness Manager usually delegates the responsibilities for maintenance and inventory of emergency equipment to the Emergency Planners.

The JAFNPP Training Manager is responsible for ensuring that all personnel who have emergency plan duties at the JAFNPP receive the appropriate emergency preparedness training.

The Training Manager shall coordinate the scheduling of training of onsite personnel and provide for the training of all offsite fire support personnel.

The Emergency Preparedness Manager shall be responsible for coordinating, scheduling and administering news organization training.

The Oswego County Director of Emergency Management is responsible for planning and conducting emergency preparedness training for emergency response personnel in Oswego County.

The Director Emergency Programs is responsible for ensuring that corporate personnel who have emergency plan duties supporting JAFNPP receive the appropriate emergency preparedness training.

Individuals responsible for Emergency Planning are trained in accordance with paragraphs 8.2 - **Training Of Emergency Personnel** and 8.3 - **Emergency Planning Staff Training**. In addition, the Emergency Planning Staff receives training by: attendance at Emergency Planning Workshops conducted with other utilities and attendance at NRC, FEMA and other government sponsored Emergency Planning seminars and, participation in JAFNPP specific training programs related to emergency preparedness.

8.2 **Training of Emergency Personnel**

Plant personnel, participating corporate personnel, and offsite response organization personnel that respond to onsite requests for assistance receive emergency response training in accordance with their roles in an emergency.

The JAFNPP Training Department shall maintain a centralized records program concerning Emergency Plan Training Documentation. Records will include classroom training for plant personnel, and records documenting drills and exercise participation.

The following curriculum shall be completed by individuals on the Authorized Access List.

- a. Overview of the Emergency Plan, include planning objectives, emergency organizations and facilities, the existence of coordinated procedures and the ability of the Emergency Response Organization (ERO) to mitigate the consequences of emergencies.
- b. Site alarms and general responses.

- c. Onsite and offsite evacuation routes, assembly areas, and decontamination of personnel and vehicles.
- d. Reporting of fires, injuries, spills and other emergency conditions.
- e. Accountability procedures.
- f. Emergency classifications.
- g. Rumor control.

Personnel assigned to the JAFNPP with specific emergency preparedness duties and responsibilities shall receive specialized training for their respective assignments. The types of training given in conjunction with Emergency Preparedness are:

- a. Training for directors, coordinators, and personnel responsible for accident assessment
- b. Emergency Communications training
- c. Training for Radiological Monitoring Teams and Radiological Assessment personnel
- d. Emergency access control, evacuation and accountability
- e. Search and rescue/first aid response
- f. Emergency repair/corrective actions
- g. Training for onsite fire fighting personnel
- h. Medical support personnel
- i. Offsite fire fighting personnel
- j. Severe Accident Management training

Figure 8.1 - Emergency Response Training presents a summary of the emergency response training program including type of training, personnel receiving training, frequency of training and retraining, applicable procedures, and objectives of the training. Details of the emergency planning training program can be found in EN-TQ-110, EMERGENCY RESPONSE ORGANIZATION TRAINING and SAP-20, Emergency Plan Training.

Training will include classroom training and where applicable practical training.

8.2.1 Annual Review of Emergency Action Levels

The Emergency Preparedness Manager, in accordance with 10 CFR 50, shall conduct an annual review of the JAFNPP Emergency Action Levels (or changes to those EALs from the prior review cycle) with appropriate representatives of New York State and Oswego County. Reviews will be documented by memorandum.

8.3 **Emergency Planning Staff Training**

Emergency Planning Staff Members receive on-going training and experiences to maintain or improve their knowledge related to emergency planning. At least once each calendar year members of the Emergency Preparedness staff are involved in one of the following activities:

- Training courses specific to emergency preparedness.
- Training courses related to emergency preparedness management, such as problem solving, stress management or confrontation/media relations; courses.
- Observation of or participation in drills and/or exercises at other utilities or stations.
- Participation in industry review and evaluation programs.
- Participation in regional or national emergency preparedness seminars, committees, workshops or forums.
- JAF training courses in related areas, such as systems, operations, or radiological protection training.

8.4 Drills and Exercises

An exercise is an event that tests the integrated capability and a major portion of the basic elements existing within emergency preparedness plans and organizations.

Drills and Exercises are discussed in detail in EN-EP-306, DRILLS AND EXERCISES, EN-EP-307, HOSTILE ACTION BASED DRILLS & EXERCISES and EN-EP-308, EMERGENCY PLANNING CRITIQUES.

Drills and exercises provide the means to evaluate training effectiveness under simulated emergency conditions, skills developed during training, reinforce correct actions and identify and correct short-comings in training, equipment, or procedures.

8.4.1 Drills

A drill is a supervised instruction period aimed at testing, developing and maintaining skills in a particular operation. A drill is often a component of an exercise. A drill may also be tabletop supervised instruction or role-playing.

The Emergency Preparedness Manager is responsible for the conduct of drills listed in Figure 8.2 - Schedule Of Drill Performance (except for Fire Fighting drills which are the responsibility of the Training Manager).

Drills shall be conducted using the following guidelines:

- a. Drills are planned in advance using formal scenarios (except communications drills which may be performed by a single individual).
- b. Observers/evaluators, and/or controllers are designated and briefed in advance, as required.
- c. Drill critiques are conducted per EN-EP-308-EMERGENCY PLANNING CRITIQUES and the results of the critique along with observer, evaluator, controller and participant comments are utilized to evaluate and resolve any identified shortcomings.

- d. Major elements of the JAFNPP Emergency Plan are tested within an eight-year period.
- e. At least once per eight-year period an exercise starts between 6:00 p.m. and 4:00 a.m.
- f. Exercises are conducted under various weather conditions.

8.4.2 Exercises

The Emergency Preparedness Manager is responsible for the coordination and conduct of exercises. Exercises are conducted at least once every two years in accordance with NRC and FEMA rules. Detailed guidance for the conduct of exercises is contained in procedure SAP-1, MAINTAINING EMERGENCY PREPAREDNESS, EN-EP-306, DRILLS AND EXERCISES, EN-EP-308, EMERGENCY PLAN CRITIQUES. In summary the following criteria apply to exercises conducted at JAFNPP.

Exercises will be conducted using the same criteria as applied to drills and in accordance with the Figure 8.2 - Schedule of Drill Performance as summarized below:

- a. The JAFNPP Exercise should include simulated off-site radiological releases.
- b. Federal, State, and company observers/evaluators may be present.
- c. Exercises are planned in advance using formal scenarios.
- d. Scenarios shall be reviewed and approved in advance by the Emergency Preparedness Manager and a representative from the Onsite Safety Review Committee (OSRC) or senior management reviewer. The reviewer should have plant experience and have participated in an SRO training program or have a current SRO license.
- e. Observers, evaluators and controllers are designated and briefed in advance.

- f. Unannounced exercises are controlled through input of initiating events by controllers.
- g. Observers, evaluators, controllers and participants comments form the exercise documentation package.
- h. The NRC/FEMA critique is factored into the exercise documentation package (when applicable).
- i. The exercise documentation package is used as a basis to evaluate shortcomings and develop a plan to correct deficiencies through additional training or equipment or procedure revision.
- j. Drill/Exercise report generation is in accordance with EN-EP-306 - DRILLS AND EXERCISES, EN-EP-307 - HOSTILE ACTION BASED DRILLS & EXERCISES and EN-EP-308 - EMERGENCY PLANNING CRITIQUES.

8.4.3 Drill and Exercise Scenario Preparation Responsibilities

The development of drills and exercises for JAFNPP shall be coordinated by the JAFNPP Emergency Preparedness Manager. The JAFNPP Training Manager shall have the responsibility for developing plant specific data. The JAFNPP Emergency Preparedness Manager shall have the responsibility for ensuring plant specific radiological data is provided. Exercise Scenario preparation shall be conducted by a committee and documented by the Emergency Preparedness Manager

Responsibilities are discussed in detail in EN-EP-306 - DRILLS AND EXERCISES and EN-EP-307 - HOSTILE ACTION BASED DRILLS & EXERCISES.

8.5 Document Maintenance

8.5.1 Plans and Procedures

The JAFNPP Emergency Plan and Procedures will be maintained in the format and by the method specified in JAFNPP Administrative Procedure AP-02.03, EMERGENCY PREPAREDNESS. This procedure delineates the following:

- a. Responsibilities (for Emergency Plan Maintenance)
- b. Format
- c. Review and approval

This procedure documents that review and updating of the JAFNPP Emergency Plan and Implementing Procedures are primarily the responsibility of the Emergency Preparedness Manager. The Plan shall be updated periodically, based on recommendations resulting from exercises, drills, changes in operating procedures or conditions, or changes in regulatory or other requirements.

Technical Support Guidelines for Severe Accident Management are free form reference guides that do not have the same format, review and approval as listed above.

8.5.2 Letters of Agreement

The Emergency Preparedness Manager will ensure that letters of agreement from all participating organizations are reviewed and recertified. Recertification may include a written recertification, purchase order documentation, memo form, or a memo of a telephone conversation. The General Manager of Plant Operations (GMPO) JAF is the individual with the authority and responsibility to make agreements with utility and non-utility organizations.

8.5.3 Reviews

An independent review of the JAFNPP Emergency Preparedness Program shall be conducted by the Entergy Quality Assurance Department. The independent review shall be conducted in accordance with 10CFR50.54(t) as follows:

- At intervals not to exceed 12 months **or**,
- As necessary, based on an assessment by the licensee against performance indicators, and as soon as reasonably practicable after a change occurs in personnel, procedures, equipment, or facilities that potentially could adversely affect emergency preparedness, but no longer than 12 months after the change. In any case, all elements of the emergency preparedness program must be reviewed at least once every 24 months.

8.5.4 The review must include an evaluation for adequacy of interfaces with State and local governments and of licensee drills, exercises, capabilities, and procedures. The results of the review, along with recommendations for improvements, must be documented, reported to the licensee's corporate and plant management. The part of the review involving the evaluation for adequacy of interface with State and local governments must be available to the appropriate State and local government.

8.5.5 Supporting Documents

A list of supporting documents is contained in Appendix J, SUPPORTING DOCUMENTS. Documents on this list will be maintained in the manner specified by the agency the supporting document is received from.

8.6 Maintenance and Inventory of Emergency Equipment and Supplies

Periodic testing, calibration and inventory of emergency equipment and supplies are conducted in accordance with Emergency Plan Implementing Procedure SAP-2, EMERGENCY EQUIPMENT INVENTORY. The Emergency Preparedness Manager or designated alternate shall conduct an annual review of this procedure to ensure the operational readiness of emergency equipment and supplies.

Emergency equipment and instrumentation shall be inventoried, inspected and operationally checked monthly, quarterly, or semiannually as indicated by the procedure and after each use. Sufficient reserves of equipment and instrumentation are stocked to replace emergency equipment and instrumentation removed from service for calibration and/or repair.

Appendix I, EMERGENCY EQUIPMENT KITS presents a list of emergency equipment and instrumentation and emergency equipment kits.

Records detailing the testing, calibration and inventory of emergency equipment and supplies shall be maintained for two years.

Communications checks and drills will be conducted in accordance with SAP-3, EMERGENCY COMMUNICATIONS TESTING. This procedure specifies that certain emergency telephones and telephone numbers shall be verified at least quarterly.

8.7 Maintenance of Public and News Media Awareness

8.7.1 Public Awareness

ENTERGY, in conjunction with the Nine Mile Point Site, New York State EMO, and the Oswego County EMO, has established an information program for the permanent residents and transient population within the Plume Exposure EPZ. The information provided emphasizes the means of notification and subsequent actions to be taken in the event of an emergency at the JAFNPP (or NMPNPS), and includes information on contacts for additional information and protective measures. Refer to Appendix H, PUBLIC INFORMATION PROGRAM for detailed information.

Information is distributed to permanent residents by various methods, including mailings to their residence or placement in local telephone books. Postings in public areas and places of business frequented by the transient population is the principal method for informing those individuals.

Public postings are updated as necessary and public distribution shall be conducted at least annually, or a frequency to coincide with telephone book distribution.

8.7.2 Residents Who May Require Special Care

Information for residents who may require special care (e.g. handicapped, elderly) is included with the annual mailing sent to the resident population. Along with this information is a card that is requested to be returned if an individual requires special care. A list of these individuals is maintained by the OCEDO for their use.

8.7.3 Rumor Control

Rumor control is conducted by a telephone answering system that may include both mechanical or electronic devices as well as operators for the answering of calls from the public.

8.7.4 News Media Awareness

News media awareness is completed by meeting with representatives annually in conjunction with Oswego County, Nine Mile Point, and New York State, or other means, as necessary. These meetings provide information concerning radiation, emergency planning, and the means established for the release of information to the news media during an emergency. In addition, media manuals are distributed to media organizations, as necessary.

8.8 **Figures, Forms and Attachments**

Figure 8.1 - Emergency Response Training

Figure 8.2 - Schedule of Drill Performance

FIGURE 8.1
EMERGENCY RESPONSE TRAINING

<u>TITLE/FUNCTION</u>	<u>ASSIGNED PERSONNEL</u>	<u>FREQUENCY</u>	<u>TRAINING OBJECTIVE</u>
Emergency Plan Indoctrination for Non-Essential Personnel	Personnel requiring regular access to the site.	Per General Employee Training, EN-TQ-107, Requirements	<p>Ensure Ability to:</p> <ul style="list-style-type: none"> a. Report emergency conditions correctly and expeditiously. b. Recognize and recall the significance of site alarms. c. Evacuate affected areas and the site. d. Locate and assemble in designated assembly areas. e. Facilitate personnel accountability process. f. Rumor Control. g. Overview of JAFNPP Emergency Plan.
Emergency Plan Indoctrination for Essential Personnel	Essential personnel who may be assigned to specific response functions in JAFNPP Emergency Plan.	Before assuming position, annually thereafter.	The objective of Emergency Plan Indoctrination for Essential Personnel shall be to provide Emergency Response Personnel a more detailed knowledge of the plant Emergency Plan and Procedures to ensure these personnel are familiar with their scope, applicability, and implementation.

FIGURE 8.1
EMERGENCY RESPONSE TRAINING
(continued)

<u>TITLE/FUNCTION</u>	<u>ASSIGNED PERSONNEL</u>	<u>FREQUENCY</u>	<u>TRAINING OBJECTIVE</u>
Emergency Plan Training for directors, coordinators, and personnel responsible for accident assessment	Designated Primary and Alternates a. Emergency Director b. EOF Manager c. b. Operations Coordinator*	Before assuming position Annually thereafter	The objective of training for Emergency Directors/Coordinators shall be to ensure the capability for immediate response, assessment and the implementation of measures to prevent or mitigate the consequences of emergencies through effective management of the Emergency Organization.
*Licensed Operator/ <u>Certified Fuel Handler</u> training may be substituted for Emergency Director training.			
Emergency Plan Training for Licensed Operators/ <u>Certified Fuel Handlers and Shift Technical Advisors</u>	Any personnel not listed above who are assigned to a position that requires a valid USNRC Operator License, or who are designated as STAs <u>will supervise fuel handling operations in the permanently defueled condition.</u>	Before assuming position Annually thereafter	The objective of Emergency Plan training for Licensed Operators/ <u>Certified Fuel Handlers and STAs</u> shall be to ensure the capability for immediate response, assessment, and the implementation of measures to prevent or mitigate the consequences of emergencies.

FIGURE 8.1
EMERGENCY RESPONSE TRAINING
(continued)

<u>TITLE/FUNCTION</u>	<u>ASSIGNED PERSONNEL</u>	<u>FREQUENCY</u>	<u>TRAINING OBJECTIVE</u>
Severe Accident Management Training	Designated Staff	Before assuming position Once every two years thereafter training or drill	The objective of SAM training shall be to ensure the capabilities for coordination, and assumption of responsibilities of actions associated with Severe Accident Operations Guidelines.
Emergency Plan Training for Non-Licensed/ <u>Non-Certified</u> Operators	Non-Licensed/ <u>Non-Certified</u> Operators	Before assuming position Annually thereafter	The objective of Emergency Plan training for Non-Licensed/ <u>Non-Certified</u> Operators shall be to ensure the capability for immediate response by conducting measures to prevent or mitigate accident conditions.
Emergency Communications	Designated Primary and Alternates: a. ENS Communicator b. Offsite Communicators (EOF) c. EOF Communicators	Before assuming position Annually thereafter	The objective of training for emergency communicators shall be to develop and maintain a group of Emergency Communicators qualified to operate emergency communication systems and effectively transmit emergency information and data to the applicable personnel and/or agencies.

FIGURE 8.1
EMERGENCY RESPONSE TRAINING
(continued)

<u>TITLE/FUNCTION</u>	<u>ASSIGNED PERSONNEL</u>	<u>FREQUENCY</u>	<u>TRAINING OBJECTIVE</u>
Radiological Assessment	Designated Primary and Alternates: a. Radiological Assessment Coordinator (EOF) b. Offsite Team Coordinator (EOF) c. Dose Assessor (EOF) d. Dose Assessor Support (EOF)	Before assuming position Annually thereafter	The objective of training for radiological assessment personnel shall be to develop and maintain a group of personnel qualified to assess real or potential radiological hazards during emergencies in order to provide the Emergency Director with the necessary information and advice to make offsite protective action recommendations and mitigate radiological consequences.
Radiological Controls and Surveys during Emergencies	Designated Primary and Alternates: a) In-Plant Radiological Controls and Downwind Survey Teams b) RP Technicians <u>Specialists</u> c) Chemistry Technicians d) Radiation Protection / Chemistry Coordinator e) d) Offsite Monitoring Team	Before assuming position Annually thereafter	The objective of training for radiological controls personnel shall be to develop and maintain a group of personnel qualified to measure real or assess potential radiological conditions during emergencies in order to provide radiological assessment personnel with the necessary information to assess or project radiological hazards both on and offsite.
Emergency Access Control,	Designated Primary	Before	The objective of training in Emergency

FIGURE 8.1
EMERGENCY RESPONSE TRAINING
(continued)

<u>TITLE/FUNCTION</u>	<u>ASSIGNED PERSONNEL</u>	<u>FREQUENCY</u>	<u>TRAINING OBJECTIVE</u>
Evacuation and Accountability	and Alternates a. Plant Security Force b. Security Coordinator c. Security Shift Supervisor d. Nuclear Security Guards.	assuming position Annually thereafter	Access Control/ Evacuation and Accountability is to develop and maintain the station security force's ability to maintain personnel accountability, and ensure effective coordination of personnel movements, onsite, and during an emergency.
Search and Rescue/First Aid Response	Plant Fire Brigade members.	Before assuming position Annually thereafter	The objective of training fire brigade members in Search and Rescue/First Aid Response is to assure that prompt medical attention is provided to contaminated, injured or ill personnel and to provide effective search and rescue capabilities for missing, trapped or injured personnel in an emergency situation.
Emergency Repair/ Corrective Actions Training	Designated Primary and Alternates: a. TSC Maintenance Coord. b. OSC Manager c. Mechanics d. Electricians e. Instrument and Control Technicians f. Electrical/I & C Coordinator g. Mechanical Coordinator	Before assuming position Annually thereafter	The objective of Emergency Repair/ Corrective Action is to develop and maintain a group of personnel capable of assessing and performing emergency repair or corrective action operations in-plant in an emergency situation.

FIGURE 8.1
EMERGENCY RESPONSE TRAINING
(continued)

<u>TITLE/FUNCTION</u>	<u>ASSIGNED PERSONNEL</u>	<u>FREQUENCY</u>	<u>TRAINING OBJECTIVE</u>
Onsite Fire Fighting Personnel	a. Fire Brigade members and Supervisors as specified in the Fire Protection Procedures Manual	Annually	Develop well-trained fire brigade whose actions minimize injuries, property loss and damage and lost generation time.
Medical Support Personnel	a. Oswego Hospital Personnel b. Ambulance Drivers and Attendants c. University Hospital Personnel	Annually	Ensure a high state of emergency preparedness and medical awareness of handling of contaminated injuries that may occur at a nuclear facility.
Offsite Fire Fighting Personnel	Designated personnel from those fire agencies which will most likely respond to a request for aid through Oswego County E-911.	Annually	The objective of training for fire fighting personnel is to ensure that offsite individuals who may be called upon in an emergency to access the JAFNPP will be knowledgeable in applicable procedures and intended roles.

FIGURE 8.2
SCHEDULE OF DRILL PERFORMANCE

<u>TITLE/FUNCTION</u>	<u>ASSIGNED PERSONNEL</u>	<u>FREQUENCY</u>	<u>ORGANIZATION(S) /PERSONNEL</u>	<u>TRAINING OBJECTIVE</u>
Communication	Function of Communications link to State and Local Governments	Monthly	Plant NY State Oswego Co.	Test in Accordance with SAP-3, EN-EP-306
Communication	Function of Communications link to Federal Emergency Response Organization	Monthly	Plant ENS HPN NRC	Test in Accordance with SAP-3, EN-EP-306
Communication	Function of Communications network out to field assessment personnel	Annually	Plant NY State Oswego Co. Plant Field Monitoring Teams	Test in Accordance with annual exercise and EN-EP-306
Fire Fighting	Fire Brigade Response	Refer to FPPs	<u>Plant</u> - Operations Fire Brigade Misc. Personnel <u>Offsite</u> - Scriba FD (Mutual Aid)	In Accordance with Fire Protection Procedures, AP-14.01 and EN-TQ-125

FIGURE 8.2
SCHEDULE OF DRILL PERFORMANCE
(continued)

<u>TITLE/FUNCTION</u>	<u>ASSIGNED PERSONNEL</u>	<u>FREQUENCY</u>	<u>ORGANIZATION(S) /PERSONNEL</u>	<u>TRAINING OBJECTIVE</u>
Medical Emergency	Treatment of Contaminated, injured person	Annually	<u>Plant</u> - Operations First Aid Team Misc. Personnel <u>Offsite</u> - Ambulance Personnel Hospital Personnel	In Accordance with written scenario per SAP-1, EN-EP-306, EN-EP-308
Radiological Monitoring	Dispatching and directing survey teams to perform radiation surveys and collect environmental samples (air, soil, water, etc.).	Annually	<u>Plant</u> - Radiological Assessment Coordinator Radiological Coordinator Radiological Monitors Other Support personnel	In accordance with written scenario per SAP-1, EN-EP-306, EN-EP-308

ENTERGY NUCLEAR OPERATIONS, INC.
JAMES A. FITZPATRICK NUCLEAR POWER PLANT

EMERGENCY PLAN VOLUME 1

EMERGENCY PLAN (VOLUMES 2 & 3) IMPLEMENTING PROCEDURES

APPENDIX A

~~APPROVED BY:~~ _____
~~Director, Regulatory and Performance Improvement~~ ~~Date~~

~~APPROVED BY:~~ _____
~~Responsible Procedure Owner~~ ~~Date~~

EFFECTIVE DATE: _____

~~OSRC MEETING NO.~~ _____ ~~DATE~~ _____

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PERIODIC REVIEW DUE DATE: MARCH 2016

Rev. No. 29 PENDING

REVISION SUMMARY PAGE

REV. NO. CHANGE AND REASON FOR CHANGE

~~29~~ — ~~FULL REVISION~~

- ~~1. Supplemental Action Procedures (SAP)
Remove SAP-4, SAP-11, SAP-19, SAP-22~~
- ~~2. Emergency Plan Implementing Procedures (EAP)
Remove EAP-26 and EAP-28.~~
- ~~3. Remove list of Inactive Procedures~~
- ~~4. Add EN-EP-801, Emergency Response Organization to
list of Emergency Plan Implementing Procedures
(EAP)~~
- ~~5. Add EAP-46, Supplemental ERO Actions to list of
Emergency Plan Implementing Procedures (EAP)~~
- ~~6. Add EN-EP-306, Drills and Exercises to list of
Emergency Plan Implementing Procedures (EAP)~~
- ~~7. Add EN-EP-308, Emergency Planning Critiques to list
of Emergency Plan Implementing Procedures (EAP)~~

PENDING

Supplemental Action Procedures (SAP): Updated for permanent
cessation of power operations.

Emergency Plan Implementing Procedures (EAP): Updated for
permanent cessation of power operations.

APPENDIX A

EMERGENCY PLAN (VOLUMES 2 & 3) IMPLEMENTING PROCEDURES

IMMEDIATE ACTION PROCEDURES (IAP)

- IAP-1 Emergency Plan Implementation Checklist
- IAP-2 Classification of Emergency Conditions
 - Figure 2.1 EAL Classification Matrix
 - Attachment 1 EAL Bases
 - Category A - Abnormal Rad Release/Rad Effluent
 - Category C - Cold Shutdown/Refueling System Malfunction
 - Category E - Events Related to ISFSI
 - Category H - Hazards
 - Category S - System Malfunction
 - Category F - Fission Product Barrier Degradation
 - Attachment 2 Fission Product Barrier Loss / Potential Loss Matrix and Bases

SUPPLEMENTAL ACTION PROCEDURES (SAP)

- SAP-1 Maintaining Emergency Preparedness
- SAP-2 Emergency Equipment Inventory
- SAP-3 Emergency Communication Testing
- SAP-7 Surveillance Procedure For On-Call Employees
- SAP-8 Prompt Notification System Failure / Siren System False Activation
- SAP-10 Meteorological Monitoring System Surveillance
- ~~SAP-17 Emergency Response Data System (ERDS) Quarterly Testing~~
- SAP-20 Emergency Plan Training
- SAP-23 Equipment Important to Emergency Preparedness

EMERGENCY PLAN IMPLEMENTING PROCEDURES (EAP)		
PROCEDURE NUMBER	PROCEDURE TITLE	CORRESPONDING VOLUME 1 SECTION / APPENDIX
EAP-1.1	Offsite Notifications	6.1.2
EAP-2	Personnel Injury	6.5.2 6.5.3 6.5.4 7.5
EAP-3	Fire	7.3.3.2
EAP-4A	Onshift Dose Assessment	6.2.3.1 7.3.1 7.3.2 7.3.3.1 7.3.3.7
EAP-4B	Detailed Dose Assessment	5.3.9B 6.2.2.2 6.2.3 6.4.2 7.3.1 7.3.2 7.3.3.1 7.3.3.7
EAP-4C	Protective Action Recommendations	5.3.9B 6.2.3 6.4.2
EAP-4.1	Release Rate Determination	4.1 4.2 5.3.9 6.2.3 7.3.3.1 7.3.3.7
EAP-5.3	Onsite/Offsite Downwind Surveys and Environmental Monitoring	6.2.2.2 6.2.3.3 7.3.3.4 7.3.3.5 7.3.3.6 7.3.3.7 7.3.3.8
EAP-6	In-Plant Emergency Survey/Entry	6.2.2.1 Appendix I
EAP-8	Personnel Accountability	5.3.11 6.4.1.3
EAP-9	Search and Rescue Operations	6.4.1.3
EAP-10	Protected Area Evacuation	3.2 6.4.1.1 6.4.1.2 7.4.3
EAP-11	Site Evacuation	3.2 6.4.1.2
EAP-12	Dose Estimated from an Accidental	6.2.3.3

EMERGENCY PLAN IMPLEMENTING PROCEDURES (EAP)		
PROCEDURE NUMBER	PROCEDURE TITLE	CORRESPONDING VOLUME 1 SECTION / APPENDIX
	Release of Radioactive Material to Lake Ontario	
EAP-13	Damage Control	6.3 7.1.3 7.7
EAP-14.6	Habitability of the Emergency Facilities	7.1.4 7.4.1 7.4.2
EAP-14.7	Remote Assembly Area Activation	7.4.5
EAP-14.8	Alternate TSC/OSC Activation and Operation	6.4.1.2
EAP-15	Emergency Radiation Exposure Criteria and Control	5.3.1 5.3.9 6.4.1.4 6.5.1 Figure 6.1
EAP-16	Public Information Procedure	5.3.12 5.4.1 6.4.2 7.1.2 7.1.6 7.1.7 7.1.8 7.2.8 8.7 9.2 Appendix H
EAP-16.2	Joint Information Center Operation	5.3.12 5.5.1 7.1.6 8.7 9.1 9.2 9.3 Appendix H
EAP-17	Emergency Organization Staffing	5.2 5.3 Figure 5-2 Figure 5-3 Table 5-1 6.1.1
EAP-19	Emergency Use of Potassium Iodide (KI)	5.3.1 6.4.1.4 6.4.2.3
EAP-20	Post Accident Sample, Offsite Shipment and Analysis	6.2.1 6.2.2.1 7.3.1 7.3.2 7.3.3.1

EMERGENCY PLAN IMPLEMENTING PROCEDURES (EAP)		
PROCEDURE NUMBER	PROCEDURE TITLE	CORRESPONDING VOLUME 1 SECTION / APPENDIX
		Figure 8.2
EAP-23	Emergency Access Control	5.3.11 6.4.1 7.9 8.2
EAP-24	EOF Vehicle and Personnel Decontamination	6.4.1.2 6.5.2 7.4.4 7.6
EAP-27	Estimation of Population Dose Within 10 Mile Emergency Planning Zone	9.1
EAP-29	EOF Ventilation Isolation During an Emergency	None Applicable
EAP-30	Emergency Termination and Transition to Recovery	9.0
EAP-34	Acceptance of Environmental Samples at the EOF/EL During an Emergency	7.1.5 7.3.2
EAP-35	EOF TLD Issuance During an Emergency	5.3.1 5.3.9 6.4.1.4 6.5.1
EAP-36	Environmental Laboratory Use During an Emergency	7.1.5 7.3.2
EAP-37	Security of the EOF and EL During Drills, Exercises and Actual Events	5.3.11
EAP-42	Obtaining Meteorological Data	7.3.3.7
EAP-43	Emergency Facilities Long Term Staffing	5.3 5.4 5.6
EAP-44	Core Damage Estimation	4.1 4.2 6.2.1 6.2.3 7.3.3.1
EAP-45	Emergency Response Data System (ERDS) System Configuration Control Program	7.2.6

EMERGENCY PLAN IMPLEMENTING PROCEDURES (EAP)		
PROCEDURE NUMBER	PROCEDURE TITLE	CORRESPONDING VOLUME 1 SECTION / APPENDIX
EAP-46	Supplemental ERO Actions	None Applicable
EN-EP-306	Drills and Exercises	8.4
EN-EP-308	Emergency Planning Critiques	8.4
EN-EP-609	Emergency Operations Facility(EOF) Operations	7.1.5
EN-EP-610	Technical Support Center(TSC) Operations	7.1.2, 7.4.2
EN-EP-611	Operational Support Center (OSC) Operations	7.1.3
EN-EP-801	Emergency Response Organization	5.2, 5.3
EN-EP-900	Emergency Preparedness Forms	None Applicable

ENTERGY NUCLEAR OPERATIONS, INC
JAMES A. FITZPATRICK NUCLEAR POWER PLANT

EMERGENCY PLAN VOLUME 1

EMERGENCY EQUIPMENT KITS

PROCEDURE NO.: APPENDIX I

APPROVED BY: _____

Director, Regulatory and Performance Improvement

APPROVED BY: _____

Responsible Procedure Owner

EFFECTIVE DATE: _____

OSRC MEETING NO. _____ DATE _____

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PERIODIC REVIEW DUE DATE: _____

Rev. No. 12 PENDING

REVISION SUMMARY PAGE

REV.

CHANGE AND REASON FOR CHANGE

~~12~~ ~~FULL REVISION~~

~~1. Updated cover sheet format per current standard.~~

~~2. Updated Approver title on cover sheet from "Director of Nuclear Safety Assurance" to "Director, Regulatory and Performance Improvement" per current organization titles.~~

PENDING

Updated for permanent cessation of power operations.

APPENDIX I
EMERGENCY EQUIPMENT KITS

<u>TYPE</u>	<u>DESCRIPTION</u>	<u>NUMBER</u>
Fire Cabinet	Fire Brigade equipment	4
Ambulance Kit	Equipment for handling contaminated persons	1
Rescue Kit	Rescue Equipment	1
Downwind Survey Kit (OSC)	Offsite radiological monitoring equipment	2
Emergency Operations Facility Survey/Reentry Kit	Supplies for operation of EOF and offsite monitoring	1
JAF Decontamination Kit	Supplies for personnel decontamination	1
OSC Emergency Kit	Emergency Equipment	1
Emergency Survey Kit	Offsite and onsite radiological monitoring equipment	1
Medical Trauma Kit	First Aid Team supplies	5
Security Building Kit	Protective equipment	1
Control Room Inventory	Emergency plans and dose assessment material	1
Technical Support Center Inventory	Supplies for operation of TSC	1
PASS Cabinet	Entry equipment for obtaining PASS sample	1
Oswego Hospital Emergency Cabinet	Equipment for handling contaminated persons	1
EOF Decontamination Kit	Supplies for personnel decontamination	1
EOF Inventory	Supplies for operation of EOF	1

Attachment 4

James A. FitzPatrick Nuclear Power Plant

Analysis of Proposed Post-Shutdown On-Shift Staffing

JAMES A. FITZPATRICK NUCLEAR POWER PLANT ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

January 20, 2016

Revision 0

Prepared by:



1/20/2016

David L. Daigle

Date

Peer Review by:

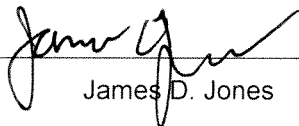


2/3/16

Pete Cullinan

Date

Approved by:



2-3-2016

James D. Jones

Date

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

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JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

I. INTRODUCTION

On November 18, 2015, Entergy Nuclear Operations, Inc. (ENO) informed the Nuclear Regulatory Commission (NRC) that the James A. FitzPatrick Nuclear Power Plant (JAF) will permanently cease operations. Once fuel has been permanently removed from the reactor vessel, ENO will submit a written certification to the NRC, in accordance with 10 CFR 50.82(a)(1)(ii) that meets the requirements of 10 CFR 50.4(b)(9). Upon docketing of these certifications, the 10 CFR Part 50 license for JAF will no longer authorize operation of the reactor or emplacement or retention of fuel in the reactor vessel, as specified in 10 CFR 50.82(a)(2). In the permanently defueled condition, the Final Safety Analysis Report (FSAR) credible accidents (postulated accidents) are reduced via the 50.59 process. In order to address the transition from an operating facility to a permanently defueled facility, changes are required to maintain the effectiveness of the Emergency Plan to properly reflect the conditions of the facility.

This report details the analysis of the proposed post-shutdown on-shift staffing for JAF incorporating anticipated changes to the on-shift staffing to address post-shutdown and defueled conditions. Specifically, it reassigns some on-shift tasks to align with proposed changes to on-shift staffing and the resulting changes to JAF Emergency Plan Implementing Procedures. This analysis will be updated and formal Time Motion Studies (TMS) will be conducted, as necessary, following development and validation of procedures that address JAFs permanently shutdown and defueled conditions.

This analysis evaluates the ability of the proposed post-shutdown minimum on-shift staff to implement all emergency tasks, evaluated in accordance with NEI 10-05, Rev. 0, *Assessment of On-shift Emergency Response Organization Staffing and Capabilities*, as applicable to the permanently shutdown and defueled conditions.

This analysis satisfies the requirements of 10 CFR Part 50, Appendix E Section IV.A.9, which states that nuclear power licensees shall perform “*a detailed analysis demonstrating that on-shift personnel assigned emergency plan implementation functions are not assigned responsibilities that would prevent the timely performance of their assigned functions as specified in the emergency plan.*” To support reduced staffing following permanent cessation of operations and permanent removal of fuel from the reactor vessel, the proposed post-shutdown on-shift staffing was evaluated in conjunction with the postulated accidents that will be applicable in the permanently defueled condition and assumed corresponding changes to procedures. This analysis examined the anticipated capability of the proposed post-shutdown minimum on-shift staff to perform the actions for the key functional areas of events described in NSIR/DPR-ISG-01, *Interim Staff Guidance – Emergency Planning for Nuclear Power Plants*, until augmenting Emergency Response Organization (ERO) staff arrives in accordance with the Emergency Plan (E-Plan).

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

II. ANALYSIS SUMMARY

This analysis determined that a proposed post-shutdown on-shift staff of seven (7) is able to cope with the spectrum of analyzed events, as described in Section IV of this report, until augmenting ERO staff arrives. As noted in the table below, JAF may qualify Radiation Protection Specialists for Fire Brigade duties at some point in the future. If this occurs, the Fire Brigade qualified on-shift Radiation Protection Specialist may be called upon to act in that role, as necessary. This contingency was evaluated as part of this analysis and there are no conflicting responsibilities in the events analyzed if the Radiation Protection Specialist is called upon to perform as a Fire Brigade member. During those instances when the Radiation Protection Specialist could be designated as a Fire Brigade member, the minimum on-shift staff of seven (7), reflected in the following table, is able to cope with the analyzed events. When the Radiation Protection Specialist is not designated as a member of the Fire Brigade, the on-shift staffing will consist of eight (8) personnel. The on-shift staff consists of individuals necessary to support each of the following emergency plan functional areas or tasks:

- Emergency Direction and Control
- Plant Operations and SFP Cooling
- Fire Fighting (Fire Brigade)
- Accident/Dose Assessment
- Radiation Protection
- Notification/Communication
- Access Control and Accountability

NEI 10-05 states it is acceptable for certain functions to be assigned to personnel already assigned other functions/tasks. These include Repair and Corrective Action, Rescue Operations and First Aid.

A. Emergency Plan Minimum Staffing

Per 10 CFR 50.54(q)(1)(iii), *Emergency planning function* means a capability or resource necessary to prepare for and respond to a radiological emergency, as set forth in the elements of section IV of Appendix E and, for nuclear power reactor licensees, the planning standards of § 50.47(b).

The following table contains the proposed post-shutdown on-shift positions expected to be in place following shutdown and permanent removal of fuel from the reactor vessel.

This analysis will be updated and formal TMSs will be conducted, as necessary, following development and validation of procedures that address JAFs permanently shutdown and defueled conditions to verify the proposed post-shutdown on-shift staffing is appropriate.

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

Position	Licensing Basis Requirement	E-Plan Functional Area	On-Shift Staffing Analysis Results
Shift Manager (SM) (Certified Fuel Handler (CFH))	E-Plan Table 5-1	Emergency Direction and Control	1
Control Room Supervisor (CRS)/CFH ¹	E-Plan Table 5-1	Notifications/Communications	1
Nuclear Plant Operator (NPO)/Non-Certified Operator (NCO) #1 ¹	E-Plan Table 5-1	FB	1
NPO/NCO #2 ¹	E-Plan Table 5-1	FB	1
NPO/NCO #3 ¹	E-Plan Table 5-1	FB	1
Fire Brigade #4 (FB #4)	E-Plan Table 5-1	FB	1 ³
Fire Brigade #5 (FB #5)	E-Plan Table 5-1	FB	1 ³
Radiation Protection Specialist	E-Plan Table 5-1	Accident/Dose Assessment ² Radiation Protection	1 ⁴
Security	Security Contingency Plan/E-Plan Table 5-1	Access Control and Accountability	Per Security Contingency Plan
TOTAL			8⁵

¹ Titles are dependent upon NRC approval of proposed changes to Technical Specifications. CFHs will supervise fuel handling operations in the permanently defueled condition. The CRS and SM will be qualified as CFHs. However, the SM requires additional qualification beyond the CFH training. Therefore, any reference to the CFH position throughout this document is considered to be equivalent to the CRS position. Non-Certified Operators (NCO) will perform duties typically associated with those performed by Nuclear Plant Operators (NPO), such as manipulation and monitoring of plant equipment.

² The RP Specialist is assigned Accident/Dose Assessment responsibilities in the Fuel Handling Accident analyses (Analyses #2 and #5). There are no Accident/Dose Assessment tasks identified as being required during the remaining analyses.

³ Fire Brigade #4 and #5 – May be provided by Fire Brigade qualified staff assigned other functions. These positions do not have any actions or tasks that would conflict with Fire Brigade responsibilities in the events analyzed. The Fire Brigade qualified staff is available to support the Shift Manager, where qualified, in non-fire events.

⁴ Radiation Protection Specialist may be Fire Brigade qualified at some point in the future and may be called upon to act in that role, if necessary. There are no conflicting responsibilities in the events analyzed.

⁵ When the Radiation Protection Specialist is designated as a member of the Fire Brigade, the on-shift staffing will consist of seven (7) personnel. During those instances when the Radiation Protection Specialist is designated as a Fire Brigade member, the minimum on-shift staff is able to cope with the analyzed events.

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

B. Other Commitments to Shift Staffing

None

C. Staffing Exceptions and Time Motion Studies (TMS)

1. No chemistry job tasks were noted as being required within the first 90 minutes of any of the analyzed events. Because the Chemistry Technician was not identified as having any specific Chemistry/Radio-Chemistry related emergency tasks during the scenarios evaluated for this analysis, the Chemistry Technician position is not included in the proposed post-shutdown on-shift staffing complement.
2. The Radiation Protection Specialist is responsible for chemistry/radiochemistry sampling. However, these tasks were noted as not being required within the first 90 minutes of any of the analyzed events. The task of dose assessment is implemented when directed by the Shift Manager, and therefore will not overlap. It is acceptable to assign the Radiation Protection Specialist the emergency plan function of dose assessment. No further analysis or TMS is required.
3. Because JAF will no longer be authorized to operate the reactor or place fuel into the reactor vessel, the STA position is unnecessary and is not included in the proposed post-shutdown on-shift staffing complement.
4. Because of the reduced actions necessary to mitigate an emergency in the permanently defueled condition and the minimal actions of the Control Room positions in a permanently defueled condition, no Senior Nuclear Operator (SNO) job tasks were noted as being required for any of the analyzed events. Because the SNOs were not identified as having any specific emergency tasks during the scenarios evaluated for this analysis, the SNO position is not included in the proposed post-shutdown on-shift staffing complement.
5. The Shift Manager is assigned the responsibility to make some site specific event notifications such as to the Duty Plant Manager, Operations Manager, and Resident Inspector. These notifications by phone are considered communications that are approximately one minute in length and are deemed acceptable in accordance with NEI 10-05 Section 3.2.2 (6)(a)(14) due to the short duration of the notifications. Additionally, these notifications are collectively evaluated in conjunction with other Shift Manager duties and responsibilities during training evaluations and Emergency Plan drills and are not deemed as impacting the Shift Managers ability to maintain oversight of the event or perform other required emergency plan tasks. In accordance with the guidance of NEI 10-05, Line 14 of NEI Table 5 contained in Section VII of this report does not reflect the performance of these short duration notifications. No further analysis or TMS is required.

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

6. Guidance provided in Table 3.1 of NEI 10-05 indicates the need to perform a TMS to verify the capability of the CRS to perform the Notification/Communication responsibilities assigned in each analysis. The JAF process for completing state and local emergency notification forms and performing the off-site notifications requires minimal manual actions. TMSs were conducted and demonstrated that these tasks could be performed by the on-shift CRS without impacting the ability of the CRS to remain in role providing support and oversight during the emergency. The TMSs demonstrated the Notification/Communication responsibilities could be performed individually or in series without impacting the CRS function. The results are documented in Section VIII of this analysis.
7. Plant staff are required to maintain continuous communications with the notification source during an aircraft threat in accordance with 10 CFR 50.54(hh) and Reg. Guide 1.214. There are no specific qualifications required to perform this task and the function is not required to be assigned in advance. The analysis of this event identified there are sufficient personnel on-shift to perform this task during the event. No further analysis or TMS is required.
8. A TMS was conducted during development of the FitzPatrick On-Shift Staffing Analysis Report, dated December 20, 2012 to determine if the Shift Manager could perform the concurrent tasks of notifying the ERO of the emergency while continuing to maintain emergency direction and control. The TMS demonstrated the Shift Manager was able to maintain Emergency Direction and Control during the approximate 2 minutes it took to notify the ERO using Everbridge. This evaluation may be used to allow the Shift Manager to perform this task if desired. No further analysis or TMS is required.
9. The Emergency Response Data System (ERDS) requirement in Appendix E to 10 CFR Part 50 exempts “all nuclear power facilities that are shut down permanently” from the need to provide an ERDS interface with the NRC. Therefore, the JAF ERDS link to the NRC will not be operational in a permanently shut down and defueled condition. The task of ERDS activation is not included as an on-shift task requiring evaluation as part of this staffing analysis.
10. NRC event notifications required due to the declaration of an Emergency Classification in accordance with 10 CFR 50.72 is made in accordance with EAP-1.1, “Offsite Notifications”. A written event notification form is generated by on-shift staff for this notification.

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

D. Emergency Plan Tasks Not Analyzed

1. Repair and Corrective Action - Per the guidance of NUREG-0654, Table B-1, repair and corrective action tasks may be performed by shift personnel assigned other functions. Repair and corrective action is defined as:

- An action that can be performed promptly to restore a non-functional component to functional status (e.g., resetting a breaker), or to place a component in a desired configuration (e.g., open a valve), and which does not require work planning or implementation of lockout/ tagout controls to complete.

In accordance with NEI 10-05 section 2.5, the analysis included a review of repair and corrective action tasks. For the purpose of this analysis, the tasks were considered to fall into two broad categories:

- Unplanned/unexpected actions that address equipment failures. These actions are contingent in nature and cannot be specified in advance.
- Planned/expected actions performed in support of operating procedure implementation, including severe accident management guidelines.

At JAF the NPOs are trained to perform the actions associated with this functional area. Actions (e.g., reset breakers, valve manipulation) directed by the CRS to mitigate the event per procedures were performed by the NPOs/NCOs in this analysis. Repair and Corrective Action is an acceptable collateral duty per the guidance of NEI 10-05 and was not analyzed.

2. Rescue Operations and First Aid: In accordance with NEI 10-05 section 2.6, the analysis also included a review of rescue operations and first aid response although neither task was required during the evaluated scenarios. Per the guidance of NUREG-0654, Table B-1, rescue operations and first aid may be performed by shift personnel assigned other functions. Three staff members per shift are trained and assigned to perform first aid duties. An on-shift Radiation Protection Specialist will provide radiation protection oversight. The station fire brigade staff is trained in rescue operations and is available to perform these tasks if required. First aid and rescue operations are acceptable collateral duties per the guidance of NEI 10-05.

III. ANALYSIS PROCESS

The FitzPatrick On-Shift Staffing Analysis Report, Rev. 0, dated December 20, 2012, was conducted by a joint team of corporate Emergency Preparedness (EP) personnel and personnel from the Operations, Training, Radiation Protection, Chemistry and Emergency Preparedness (EP) departments. Additionally, members of the Security staff provided input to the analysis. Revision 1 of this report (October 8, 2013) was developed based on input, reviews and concurrence from station personnel from the same departments as those participating in the

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

original analysis. This revision incorporated the use of a dual-role individual to perform the function and task of the Shift Technical Advisor (STA) as allowed by NEI 10-05.

The current analysis was developed by reviewing each scenario from Revision 1 to determine its applicability in a permanent shutdown and defueled condition and what plant actions and emergency plan implementation actions were required based on plant procedures prior to staff augmentation. These actions were then compared to the proposed post-shutdown on-shift positions expected to be in place following shutdown and permanent removal of fuel from the reactor vessel, ensuring that no actions were assigned to staff members that conflicted with either their proposed emergency plan role or operational role as appropriate. In cases where multiple tasks were assigned to an individual in their role, an evaluation of the timing of the tasks was conducted to ensure that they could be performed by the individual in series within any specified time requirements.

The results of the analysis for each of the scenarios are included in Section VII, APPENDIX B – ON-SHIFT STAFFING ANALYSIS. Note that NSIR DPR-ISG-01 states that only Design Basis Accidents (DBA) “which would result in an emergency declaration” should be evaluated in the staffing assessment. In a permanently shutdown and defueled condition FSAR Chapter 14 will be revised to eliminate the DBAs that will not be applicable in the permanently defueled condition. These DBAs include the control rod drop accident, loss of coolant accident, and main steam line break.

IV. ACCIDENT SCENARIOS

A. Accident Selection

1. The OSA scenarios were chosen using the guidance of NEI 10-05 and NSIR/DPR-ISG-01, based on the applicability in a permanent shutdown and defueled condition. The evaluation considered the plant DBAs described in the FSAR along with additional scenarios specified by the guidance documents. The following scenarios were considered for inclusion in this analysis:
 - Design Basis Threat (DBT) ground assault as described in NEI 10-05
 - DBA Fuel Handling Accident (FHA).
 - Aircraft Potential Threat as described in 10 CFR 50.54(hh).
 - Fire requiring evacuation of the Control Room, (Appendix R Fire) as described in NEI 10-05
 - General Emergency with radioactive release and Protective Action Recommendation (PAR) as described in NEI 10-05 – assumed for analysis purposes.
 - Station Blackout (SBO) as described in NEI 10-05.

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B. Accident Scenarios included in the Analysis

1. Design Basis Threat

- The event evaluated for this analysis assumes a land based threat that is neutralized immediately when inside the protected area fence, no significant damage to equipment or systems that require corrective actions before the ERO is staffed, no radiological release, and no fire that requires firefighting response before the ERO is staffed.

2. Fuel Handling Accident (FHA)

- The postulated design basis accident that will remain applicable to JAF in its permanently shutdown and defueled condition is the FHA in the reactor building where the SFP is located. This accident analysis assumes the drop of a spent fuel assembly onto the spent fuel racks within the SFP resulting in breaking the fuel rods.

3. Aircraft Potential Threat (50.54(hh))

- Notification is received from the NRC that a potential aircraft threat exists (>5 minutes, <30 minutes).

4. Fire requiring evacuation of the Control Room and control of service water pumps from a remote location

- A fire occurs requiring the evacuation of the Control Room and procedures implemented to control service water pumps from a remote location.

5. General Emergency (GE) with radioactive release and PAR (assumed for analysis purposes)

- This event is based on the same initial conditions as the FHA, but assumes a dose that exceeds the Environmental Protection Agency's (EPA) Protective Action Guides (PAGs) beyond the site boundary, and thus necessitates promulgation of a PAR.

C. Accident Scenarios not included in the Analysis

1. Station Blackout

NSIR/DPR-ISG-01 provides guidance associated with the staffing analysis for a Station Blackout (SBO). ISG-01 states, in part:

Station blackouts are beyond the plant's design basis and may not need to be addressed in the staffing analysis. The blackout coping analyses performed by licensees pursuant to 10 CFR 50.63 establish blackout coping times that exceed the required on-shift staff augmentation time. Also, since the control room fire scenario leading to evacuation and remote shutdown may adequately address the considerations involved with an Appendix R "safe shutdown" fire, licensees may not need to consider this scenario in the staffing analysis.

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10 CFR 50.63(a)(1) states, in part:

Each light-water-cooled nuclear power plant licensed to operate under this part, each light-water-cooled nuclear power plant licensed under subpart C of 10 CFR part 52 after the Commission makes the finding under § 52.103(g) of this chapter, and each design for a light-water-cooled nuclear power plant approved under a standard design approval, standard design certification, and manufacturing license under part 52 of this chapter must be able to withstand for a specified duration and recover from a station blackout as defined in § 50.2.

Upon docketing of the certification of permanent removal of fuel in accordance with 10 CFR 50.82(a)(1)(ii), per 10 CFR 50.82(a)(2) the Part 50 license will no longer authorize operation of the reactor or emplacement of fuel in the reactor vessel. JAF will no longer be a nuclear power plant licensed to operate under 10 CFR Part 50 and 10 CFR 50.63 will no longer be applicable. The SBO scenario is no longer considered an appropriate gauge by which to measure whether an event presents on-shift staff with responsibilities that would prevent the timely performance of assigned functions in the E-Plan. Therefore, this scenario is not considered in this analysis.

2. Appendix R Fire That Results in a Reactor Trip

10 CFR 50 Appendix R is applicable to licensed nuclear power generating plant. Once the certifications required by 10 CFR 50.82(a)(1) are docketed, JAF will no longer be licensed to generate power. The Appendix R fire scenario is no longer considered an appropriate gauge by which to measure whether an event presents on-shift staff with responsibilities that would prevent the timely performance of assigned functions in the E-Plan. Therefore, this scenario is not considered in this analysis.

V. GENERAL ASSUMPTIONS AND LIMITATIONS

A. Notes and Assumptions applicable to all accidents in JAF Staffing Analysis:

1. The RP and Chemistry tasks reviewed were those directed by the Shift Manager to support actions in Operations procedures for Off-Normal and Emergency conditions, and Emergency Plan procedures and checklists. Any additional tasks directed by the Technical Support Center (TSC), Operations Support Center (OSC), or Emergency Operations Facility (EOF) procedures were not reviewed.
2. JAF has 60 minute emergency responders when augmented while the ERO is offsite. This analysis was conducted assuming a 90 minute response of the augmented ERO to allow the use of this analysis for a possible future extension in ERO augmentation times. There were no specific emergency response tasks assigned to the augmented ERO prior to the 90 minute response.

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

3. There are no time critical RP or Chemistry tasks and task performance is directed and prioritized by the Shift Manager. The time RP is directed to perform a task and the amount of time taken to complete tasks are estimated. No Chemistry samples are required by Tech Specs within the 90 minute period after a declaration. Because the Shift Manager directs when the tasks are performed, there are no overlapping RP or chemistry tasks.

B. NEI 10-05 Rev 0 Assumptions

1. Response time used for this analysis was the maximum acceptable number of minutes elapsed between emergency declaration and the augmented ERO position holder at a location necessary to relieve an on-shift position of the emergency response task. As noted above, this analysis assumed a 90 minute augmentation time although the times noted in the Table 1 accident analysis tables reflects the E-plan required staffing times of 60 minutes.
2. On-shift personnel complement was based on the proposed post-shutdown on-shift positions expected to be in place following shutdown and permanent removal of fuel from the reactor vessel.
3. Although the temporary absence of a position may be allowed by Tech Specs, the analysis was performed assuming that all required on-shift positions are filled.
4. Each analyzed event occurred during off-normal work hours where the ERO was offsite and all required minimum on-shift positions were filled.
5. On-shift personnel reported to their assigned response locations within timeframes sufficient to allow for performance of assigned actions.
6. On-shift staff had necessary Radiation Worker qualification to obtain normal dosimetry and enter the radiological control area (RCA) (but not locked high or very high radiation areas) without the aid of an Radiation Protection Specialist.
7. Personnel assigned plant operations met the requirements and guidance (analyzed through other programs such as operator training) and were not evaluated as part of this assessment unless a role/function/task from another major response area was assigned as a collateral duty.
8. In-plant (manual) safety related operator actions to manipulate components and equipment from locations outside the Control Room to achieve and maintain SFP cooling was done by a member of the on-shift staff as defined in the unit's Tech Specs.
9. Fire brigade (FB) staff performance is analyzed through other plant programs (e.g., fire drills) and was not evaluated as part of this assessment unless a role/function/task from another major response area was assigned as a collateral duty.

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

10. Security was not evaluated unless a role or function from another major response area was assigned as a collateral duty.
11. Communications, briefings, and peer checks are acceptable collateral duties.
12. All on-shift staff positions were evaluated, even if they had no known collateral duties, to ensure they can perform the tasks assigned to them. [Ref NSIR/DPR-ISG-01]
13. The Staffing Analysis specified the resources available to perform “Repair and Corrective Actions” and “Rescue Operations and First Aid” but these may be assigned as collateral duty to a designated on-shift responder.
14. For assessment purposes, NRC notifications were treated as a continuous action per 10CFR50.72(c)(3) and 73.71(b)(1). This means once the initial NRC communications are established, the NRC will request an open line be maintained with the NRC Operations Center.
15. DBA (postulated accident, Condition IV event, or limiting fault) is considered as “Unanticipated occurrences that are postulated for accident analysis purposes but not expected to occur during the life of the plant. A postulated accident could result in sufficient damage to preclude resumption of plant operation. As a result, a greater number and variety of actions would need to be implemented by plant personnel.”
16. DBT assumed a hostile force breached the protected area fence but was neutralized with no adverse consequences to plant safety. Damage inflicted on plant systems, structures and components was not sufficient to interrupt SFP cooling or cause a radiological release. There was no fire significant enough to warrant firefighting efforts prior to arrival of offsite resources and/or the augmented ERO.
17. The Staffing Analysis used DBA analysis assumptions, inputs, timing of events, plant protective response, and specified manual operator actions and their timing, as documented in the FSAR.
18. In cases where a DBA analysis included a radiological release, and the starting point of the release was not clearly defined, the staffing analysis assumed that the release began 15 minutes after the initiating event.

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VI. APPENDIX A - ANALYZED EVENTS AND ACCIDENTS

Event #	Event Type	Summary Description of Event	Plant Mode ¹	Reference Document(s)	Event ECL	Analysis Required?
1	DBT	Land and/or waterborne HOSTILE ACTION directed against the Protected Area by a HOSTILE FORCE. Assume adversary characteristics defined by the Design Basis Threat (DBT).	Permanently Defueled	NEI 10-05	Site Area Emergency	Yes
2	DBA	Fuel Handling Accident	Permanently Defueled	UFSAR Chapter 14 (as revised to address permanently defueled conditions)	Alert	Yes
3	Assumed for Analysis Purposes	Aircraft Potential Threat	Permanently Defueled	10CFR50.54hh(1) RG 1.214	Alert	Yes
4	Assumed for Analysis Purposes	Control Room Evacuation and transfer control to remote location (fire in main control room)	Permanently Defueled	10 CFR Part 50.48	Alert	Yes
5	Assumed for Analysis Purposes	General Emergency with radiological release and PAR	Permanently Defueled	ISG IV.C	General Emergency	Yes
6	Assumed for Analysis Purposes	Station Blackout	Permanently Defueled	10CFR50.63	Site Area Emergency	No ²
7	Assumed for Analysis Purposes	Appendix R Fire	Permanently Defueled	ISG IV.C	Alert	No ³

¹ Once JAF submits the certification of permanent removal of fuel in accordance with 10 CFR 50.82(a)(1)(ii), per 10 CFR 50.82(a)(2) the 10 CFR Part 50 license will no longer authorize operation of the reactor or emplacement of fuel in the reactor vessel. JAF will no longer be a nuclear power plant licensed to operate under Part 50.

² Once JAF submits the certification of permanent removal of fuel in accordance with 10 CFR 50.82(a)(1)(ii), per 10 CFR 50.82(a)(2) the 10 CFR Part 50 license will no longer authorize operation of the reactor or emplacement of fuel in the reactor vessel and 10 CFR 50.63 will no longer be applicable.

³ Upon Termination of License as prescribed under 10 CFR 50.82 JAF 's Fire Protection program will fall under 10 CFR 50.48 (f) which requires the maintenance of a fire protection program to address the potential for fires that could result in the release or spread of radioactive materials.

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VII. APPENDIX B – ON-SHIFT STAFFING ANALYSIS

A. Accident Analysis #1 – Design Basis Threat

1. Accident Summary
 - Land and/or waterborne HOSTILE ACTION directed against the Protected Area by a HOSTILE FORCE. Assume adversary characteristics defined by the Design Basis Threat (DBT).
2. Accident Specific Assumptions Made
 - The JAF DBT for this analysis assumes a land based threat.
 - This event assumes the threat is neutralized immediately when inside the protected area fence, no significant damage to equipment or systems that require corrective actions before the ERO is staffed, no radiological release, and no fire that requires firefighting response before the ERO is staffed.
 - Assume Spent Fuel Pool Temperature of 125°F.
 - Security notifies the Shift Manager of condition of hostile action occurring within the protected area (Security code RED)
 - Assume all non-security staff is located inside the protected area at their normal work station when the event occurs.
 - Assume all systems function and the spent fuel remains covered. No fuel damage and no release.
3. Procedures for Accident Response
 - AOP -70, Security Threat
 - IAP-2, Classification of Emergency Conditions
 - EAP- 1, Offsite Notifications

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

4. Tables

JAF TABLE 1 – ON-SHIFT POSITIONS Analysis # 1 DBT Security Threat						
Line #	On-shift Position	E-Plan Reference	Augmentation Elapsed Time (min)*	Role in Table # / Line #	Unanalyzed Task?	TMS Required?
1	SM	Emergency Plan Table 5-1	60	T2/L1 T5/L1 T5/L3 T5/L5 T5/L6	No	Yes ¹
2	CRS	Emergency Plan Table 5-1	N/A	T2/L2 T5/L7* T5/ L8 T5/L9 T5/L10 T5/L13	No	Yes ²
3	NCO #1	Emergency Plan Table 5-1	N/A	N/A	No	No
4	NCO #2	Emergency Plan Table 5-1	N/A	N/A	No	No
5	NCO #3	Emergency Plan Table 5-1	N/A	N/A	No	No
6	FB #4	Emergency Plan Table 5-1	N/A	N/A	No	No
7	FB #5	Emergency Plan Table 5-1	N/A	N/A	No	No
8	RP	Emergency Plan Table 5-1	60	N/A	No	No
9	Security	Security Contingency Plan / Emergency Plan Table 5-1	N/A	T5/L15	No	No

¹ Guidance provided in Table 3.1 of NEI 10-05 indicates the need to perform a TMS to verify the results of this analysis. The Shift Manager is assigned the responsibility to make ERO notifications. A TMS was conducted during development of the December 2012 OSA and demonstrated that the Shift Manager was able to maintain Emergency Direction and Control during the approximate 2 minutes it took to notify the ERO using Everbridge. No further analysis or TMS is required to verify timely and effective implementation.

² See Section VIII.A

* Expected duration of less than 1 minute. Therefore, Task not included in the TMS included in Section VIII.A.

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

JAF TABLE 2 – PLANT OPERATIONS & SAFE SHUTDOWN One Unit – One Control Room ANALYSIS # 1 DBT Security Threat Minimum Operations Crew Necessary to Implement AOPs and EOPs if Applicable			
Line #	Generic Title/Role	On-Shift Position	Task Analysis Controlling Method
1	Shift Manager	SM	Licensed Operator Training Program
2	Unit Supervisor	CRS	Licensed Operator Training Program

Other (non-Operations) Personnel Necessary to Implement AOPs and EOPs if Applicable

Line #	Generic Title/Role	On-Shift Position	Task Analysis Controlling Method
3	Mechanic	N/A	N/A
4	Electrician	N/A	N/A
5	I&C Technician	N/A	N/A
6	Other	N/A	N/A
7	Other	N/A	N/A

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

Fire Brigade

JAF TABLE 3 – FIREFIGHTING ANALYSIS # 1 DBT Security Threat		
Line #	Performed by	Task Analysis Controlling Method
1	N/A	N/A
2	N/A	N/A
3	N/A	N/A
4	N/A	N/A
5	N/A	N/A

This accident does not include the need for firefighting, first aid or search & rescue.

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

**JAF TABLE 4 – RADIATION PROTECTION AND CHEMISTRY
Analysis # 1 DBT Security Threat**

LINE	Position Performing Function / Task	Performance Time Period After Emergency Declaration (minutes)																	
		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90
1	In-Plant Survey: <u>N/A</u>																		
2	On-site Survey: <u>N/A</u>																		
3	Personnel Monitoring: <u>N/A</u>																		
4	Job Coverage: <u>N/A</u>																		
5	Offsite Rad Assessment: <u>N/A</u>																		
6	Other site specific RP (describe): <u>N/A</u>																		
7	Chemistry Function task #1 (describe) <u>N/A</u>																		
8	Chemistry Function task #2 (describe) <u>N/A</u>																		

No chemistry or RP job function tasks for the conditions described in the DBT assumptions. RP takes cover as directed.

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

JAF TABLE 5 – EMERGENCY PLAN IMPLEMENTATION Analysis # 1 DBT Security Threat			
Line#	Function / Task	On-Shift Position	Task Analysis Controlling Method
1	Declare the emergency classification level (ECL)	Shift Manager	Emergency Planning Training Program / EP Drills
2	Approve Offsite Protective Action Recommendations	N/A	N/A
3	Approve content of State/local notifications	Shift Manager	Emergency Planning Training Program
4	Approve extension to allowable dose	N/A	N/A
5	Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	Shift Manager	Licensed Operator Training Program / Emergency Planning Training Program
6	ERO notification	Shift Manager	Emergency Planning Training Program
7	Abbreviated NRC notification for DBT event	CRS	Licensed Operator Training Program
8	Complete State/local notification form	CRS	Emergency Planning Training Program
9	Perform State/local notifications	CRS	Emergency Planning Training Program
10	Complete NRC event notification form	CRS	Emergency Planning Training Program
11	Activate ERDS*	N/A	N/A
12	Offsite radiological assessment	N/A	N/A
13	Perform NRC notifications	CRS	Licensed Operator Training Program
14	Perform other site-specific event notifications (e.g., Duty Plant Manager, INPO, ANI, etc.)	N/A	N/A
15	Personnel Accountability	Security	Security Training Program / EP Drills

* The ERDS requirement in Appendix E to 10 CFR Part 50 exempts “all nuclear power facilities that are shut down permanently” from the need to provide an ERDS interface with the NRC. Therefore, the JAF ERDS link to the NRC will not be operational in a permanently shut down and defueled condition. The task of ERDS activation is therefore not included as an on-shift task requiring evaluation as part of this staffing analysis.

B. Accident Analysis #2 – Fuel Handling Accident

1. Accident Summary
 - The FHA assumes the drop of a spent fuel assembly onto the spent fuel racks within the SFP resulting in breaking the fuel rods.
2. Accident Specific Assumptions Made
 - This analysis assumes an ALERT declaration based on area radiation monitors reaching levels to prompt an emergency declaration.
 - Additional plant personnel, including Operations, Chemistry, and Radiation Protection Specialists, would be on-site during fuel assembly movement. The presence of additional plant personnel would free the on-shift Radiation Protection Specialist to perform dose assessment.
3. Procedures for Accident Response
 - IAP-1, Emergency Plan Implementation Checklist
 - IAP-2, Classification of Emergencies
 - EAP-1, Offsite Notification
 - EAP-4 Dose Assessment Calculations
 - AOP-44 R8, Dropped Fuel Assembly
 - EAP-5.3, Onsite/Offsite Downwind Surveys and Environmental Monitoring

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

4. Tables

JAF TABLE 1 – ON-SHIFT POSITIONS Analysis #2 – Fuel Handling Accident						
Line #	On-shift Position	E-Plan Reference	Augmentation Elapsed Time (min)	Role in Table # / Line #	Unanalyzed Task?	TMS Required?
1	SM	Emergency Plan Table 5-1	60	T2/L1 T5/L1 T5/L3 T5/L5 T5/L6	No	Yes ¹
2	CRS	Emergency Plan Table 5-1	N/A	T2/L2 T5/L8 T5/L9 T5/L10 T5/L13	No	Yes ²
3	NCO #1	Emergency Plan Table 5-1	N/A	N/A	No	No
4	NCO #2	Emergency Plan Table 5-1	N/A	N/A	No	No
5	NCO #3	Emergency Plan Table 5-1	N/A	N/A	No	No
6	FB #4	Emergency Plan Table 5-1	N/A	N/A	No	No
7	FB #5	Emergency Plan Table 5-1	N/A	N/A	No	No
8	RP	Emergency Plan Table 5-1	60	T4/L2 T5/L12	No	Yes ³
9	Security	Security Contingency Plan / Emergency Plan Table 5-1	N/A	T5/L15	No	No

¹ Guidance provided in Table 3.1 of NEI 10-05 indicates the need to perform a TMS to verify the results of this analysis. The Shift Manager is assigned the responsibility to make ERO notifications. A TMS was conducted during development of the December 2012 OSA and demonstrated that the Shift Manager was able to maintain Emergency Direction and Control during the approximate 2 minutes it took to notify the ERO using Everbridge. No further analysis or TMS is required to verify timely and effective implementation.

² See Section VIII.B

³ See Section II.C.1 for the exception taken for the Radiation Protection Specialist to perform dose assessment. No Time Motion Study or corrective action required.

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

JAF TABLE 2 – PLANT OPERATIONS & SAFE SHUTDOWN One Unit – One Control Room ANALYSIS # 2 – Fuel Handling Accident			
Minimum Operations Crew Necessary to Implement AOPs and EOPs if Applicable			
Line #	Generic Title/Role	On-Shift Position	Task Analysis Controlling Method
1	Shift Manager	SM	Licensed Operator Training Program
2	Unit Supervisor	CRS	Licensed Operator Training Program

Other (non-Operations) Personnel Necessary to Implement AOPs and EOPs if Applicable

Line #	Generic Title/Role	On-Shift Position	Task Analysis Controlling Method
3	Mechanic	N/A	N/A
4	Electrician	N/A	N/A
5	I&C Technician	N/A	N/A
6	Other	N/A	N/A
7	Other	N/A	N/A

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

Fire Brigade

JAF TABLE 3 – FIREFIGHTING ANALYSIS # 2 – Fuel Handling Accident		
Line #	Performed by	Task Analysis Controlling Method
1	N/A	N/A
2	N/A	N/A
3	N/A	N/A
4	N/A	N/A
5	N/A	N/A

This accident does not include the need for firefighting, first aid or search & rescue.

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

JAF TABLE 4 – RADIATION PROTECTION AND CHEMISTRY Analysis #2 – Fuel Handling Accident																			
LINE	Position Performing Function / Task	Performance Time Period After Emergency Declaration (minutes)*																	
		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90
1	In-Plant Survey: N/A																		
2	On-site Survey: RP						X	X	X	X	X	X	X	X	X	X	X	X	X
3	Personnel Monitoring: N/A																		
4	Job Coverage: N/A																		
5	Offsite Rad Assessment: (Included in Table 5)																		
6	Other site specific RP (describe): N/A																		
7	Chemistry Function task #1 (describe) N/A																		
8	Chemistry Function task #2 (describe) N/A																		

The on-shift Radiation Protection Specialist will perform the above task as directed by the Shift Manager. Tasks are not time critical. The on-shift Radiation Protection Specialist is available for dose assessment if a release occurs.

* The time to commence and complete the task is estimated.

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

JAF TABLE 5 – EMERGENCY PLAN IMPLEMENTATION Analysis #2 – Fuel Handling Accident			
Line #	Function / Task	On-Shift Position	Task Analysis Controlling Method
1	Declare the emergency classification level (ECL)	Shift Manager	Emergency Planning Training Program / EP Drills
2	Approve Offsite Protective Action Recommendations	N/A	N/A
3	Approve content of State/local notifications	Shift Manager	Emergency Planning Training Program
4	Approve extension to allowable dose	N/A	N/A
5	Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	Shift Manager	Licensed Operator Training Program / Emergency Planning Training Program
6	ERO notification	Shift Manager	Emergency Planning Training Program
7	Abbreviated NRC notification for DBT event	N/A	N/A
8	Complete State/local notification form	CRS	Emergency Planning Training Program
9	Perform State/local notifications	CRS	Emergency Planning Training Program
10	Complete NRC event notification form	CRS	Emergency Planning Training Program
11	Activate ERDS*	N/A	N/A
12	Offsite radiological assessment	Radiation Protection Specialist	Emergency Planning Training Program
13	Perform NRC notifications	CRS	Licensed Operator Training Program
14	Perform other site-specific event notifications (e.g., Duty Plant Manager, INPO, ANI, etc.)	N/A	N/A
15	Personnel Accountability	Security Officer	Security Training Program

* The ERDS requirement in Appendix E to 10 CFR Part 50 exempts “all nuclear power facilities that are shut down permanently” from the need to provide an ERDS interface with the NRC. Therefore, the JAF ERDS link to the NRC will not be operational in a permanently shut down and defueled condition. The task of ERDS activation is therefore not included as an on-shift task requiring evaluation as part of this staffing analysis.

C. Accident Analysis #3 – Aircraft Potential Threat

1. Accident Summary
 - The analysis includes all emergency response actions taken prior to an aircraft impact in accordance with RG 1.214.
 - The analysis does not include a scenario or response actions taken during or after a crash.
2. Accident Specific Assumptions Made
 - The Shift Manager receives the call from the NRC of potential aircraft threat.
 - All non-security on-shift personnel are inside the protected area fence at their normal workstation.
3. Procedures for Accident Response
 - AOP-70A, Security Threat
 - IAP-1, , Emergency Plan Implementation Checklist
 - IAP-2, Classifications
 - EAP-1.1, Notifications
 - EAP-8, Personnel Accountability
 - EAP-10, PA Evacuation

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

4. Tables

JAF TABLE 1 – ON-SHIFT POSITIONS Analysis #3 – Aircraft Potential Threat						
Line #	On-shift Position	E-Plan Reference	Augmentation Elapsed Time (min)	Role in Table # / Line #	Unanalyzed Task?	TMS Required?
1	SM	Emergency Plan Table 5-1	60	T2/L1 T5/L1 T5/L3 T5/L5 T5/L6	No	Yes ¹
2	CRS	Emergency Plan Table 5-1	N/A	T2/L2 T5/L8 T5/L9 T5/L10 T5/L13	No	Yes ²
3	NCO #1	Emergency Plan Table 5-1	N/A	T3/L1	No	No
4	NCO #2	Emergency Plan Table 5-1	N/A	T3/L2	No	No
5	NCO #3	Emergency Plan Table 5-1	N/A	T3/L3	No	No
6	FB #4	Emergency Plan Table 5-1	N/A	T3/L4	No	No
7	FB #5	Emergency Plan Table 5-1	N/A	T3/L5	No	No
8	RP	Emergency Plan Table 5-1	60	N/A	No	No
9	Security	Security Contingency Plan / Emergency Plan Table 5-1	N/A	T5/L15	No	No

¹ Guidance provided in Table 3.1 of NEI 10-05 indicates the need to perform a TMS to verify the results of this analysis. The Shift Manager is assigned the responsibility to make ERO notifications. A TMS was conducted during development of the December 2012 OSA and demonstrated that the Shift Manager was able to maintain Emergency Direction and Control during the approximate 2 minutes it took to notify the ERO using Everbridge. No further analysis or TMS is required to verify timely and effective implementation.

² See Section VIII.C.

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

JAF TABLE 2 – PLANT OPERATIONS & SAFE SHUTDOWN One Unit – One Control Room Analysis #3 – Aircraft Potential Threat			
Minimum Operations Crew Necessary to Implement AOPs and EOPs if Applicable			
Line #	Generic Title/Role	On-Shift Position	Task Analysis Controlling Method
1	Shift Manager	SM	Licensed Operator Training Program
2	Unit Supervisor	CRS	Licensed Operator Training Program

Other (non-Operations) Personnel Necessary to Implement AOPs and EOPs if Applicable

Line #	Generic Title/Role	On-Shift Position	Task Analysis Controlling Method
3	Mechanic	N/A	N/A
4	Electrician	N/A	N/A
5	I&C Technician	N/A	N/A
6	Other	N/A	N/A
7	Other	N/A	N/A

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

Fire Brigade

JAF TABLE 3 – FIREFIGHTING Analysis #3 – Aircraft Potential Threat		
Line #	Performed by	Task Analysis Controlling Method
1	N/A	N/A
2	N/A	N/A
3	N/A	N/A
4	N/A	N/A
5	N/A	N/A

This accident does not include the need for firefighting, first aid or search & rescue. The Fire Brigade relocates outside the PA and stands by.

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

JAF TABLE 4 – RADIATION PROTECTION AND CHEMISTRY Analysis #3 – Aircraft Potential Threat																			
LINE	Position Performing Function / Task	Performance Time Period After Emergency Declaration (minutes)*																	
		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90
1	In-Plant Survey: N/A																		
2	On-site Survey: N/A																		
3	Personnel Monitoring: N/A																		
4	Job Coverage: N/A																		
5	Offsite Rad Assessment: <i>(Included in Table 5 – N/A)</i>																		
6	Other site specific RP (describe): N/A**																		
7	Chemistry Function task #1 (describe) – N/A																		
8	Chemistry Function task #2 (describe) – N/A																		

* Times are estimated.

** The Radiation Protection Specialist has no assigned tasks in response to this event and would be available, if needed, to maintain continuous communications with the NRC during the event.

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

JAF TABLE 5 – EMERGENCY PLAN IMPLEMENTATION Analysis #3 – Aircraft Potential Threat			
Line #	Function / Task*	On-Shift Position	Task Analysis Controlling Method
1	Declare the emergency classification level (ECL)	Shift Manager	Emergency Planning Training Program / EP Drills
2	Approve Offsite Protective Action Recommendations	N/A	N/A
3	Approve content of State/local notifications	Shift Manager	Emergency Planning Training Program
4	Approve extension to allowable dose	N/A	N/A
5	Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	Shift Manager	Licensed Operator Training Program / Emergency Planning Training Program
6	ERO notification	Shift Manager	Emergency Planning Training Program
7	Abbreviated NRC notification for DBT event	N/A	N/A
8	Complete State/local notification form	CRS	Emergency Planning Training Program
9	Perform State/local notifications	CRS	Emergency Planning Training Program
10	Complete NRC event notification form	CRS	Emergency Planning Training Program
11	Activate ERDS*	N/A	N/A
12	Offsite radiological assessment	N/A	N/A
13	Perform NRC notifications	CRS	Licensed Operator Training Program
14	Perform other site-specific event notifications (e.g., Duty Plant Manager, INPO, ANI, etc.)	N/A	N/A
15	Personnel Accountability	Security	Security Training Program

* The ERDS requirement in Appendix E to 10 CFR Part 50 exempts “all nuclear power facilities that are shut down permanently” from the need to provide an ERDS interface with the NRC. Therefore, the JAF ERDS link to the NRC will not be operational in a permanently shut down and defueled condition. The task of ERDS activation is therefore not included as an on-shift task requiring evaluation as part of this staffing analysis.

D. Accident Analysis #4 – Control Room Fire Requiring Evacuation and Maintain SFP Cooling

1. Accident Summary
 - This event involves a large transient fire requiring evacuation of the Control Room. The event has the potential to include shorts and/or spurious signals producing potential to lose SFP cooling capabilities.
2. Accident Specific Assumptions Made
 - Assumed Control Room staff does not have time to perform any procedural actions other than declare the Alert and make the plant announcement before leaving the control room.
3. Procedures for Accident Response
 - IAP-2, Classification of Emergencies
 - EAP-1, Offsite Notification

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

4. Tables

JAF TABLE 1 – ON-SHIFT POSITIONS Analysis #4 – CR Evacuation & SFP Cooling						
Line #	On-shift Position	E-Plan Reference	Augmentation Elapsed Time (min)	Role in Table # / Line #	Unanalyzed Task?	TMS Required?
1	SM	Emergency Plan Table 5-1	60	T2/L1 T5/L1 T5/L3 T5/L5 T5/L6	No	Yes ¹
2	CRS	Emergency Plan Table 5-1	N/A	T2/L2 T5/L8 T5/L9 T5/L10 T5/L13	No	Yes ²
3	NCO #1	Emergency Plan Table 5-1	N/A	T3/L1	No	No
4	NCO #2	Emergency Plan Table 5-1	N/A	T3/L2	No	No
5	NCO #3	Emergency Plan Table 5-1	N/A	T3/L3	No	No
6	FB #4	Emergency Plan Table 5-1	N/A	T3/L4	No	No
7	FB #5	Emergency Plan Table 5-1	N/A	T3/L5	No	No
8	RP	Emergency Plan Table 5-1	60	N/A	No	No
9	Security	Security Contingency Plan / Emergency Plan Table 5-1	N/A	N/A	No	No

¹ Guidance provided in Table 3.1 of NEI 10-05 indicates the need to perform a TMS to verify the results of this analysis. The Shift Manager is assigned the responsibility to make ERO notifications. A TMS was conducted during development of the December 2012 OSA and demonstrated that the Shift Manager was able to maintain Emergency Direction and Control during the approximate 2 minutes it took to notify the ERO using Everbridge. No further analysis or TMS is required to verify timely and effective implementation.

² See Section VIII.D.

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

JAF TABLE 2 – PLANT OPERATIONS & SAFE SHUTDOWN One Unit – One Control Room Analysis #4 – CR Evacuation & SFP Cooling			
Minimum Operations Crew Necessary to Implement AOPs and EOPs if Applicable			
Line #	Generic Title/Role	On-Shift Position	Task Analysis Controlling Method
1	Shift Manager	SM	Licensed Operator Training Program
2	Unit Supervisor	CRS	Licensed Operator Training Program

Other (non-Operations) Personnel Necessary to Implement AOPs and EOPs if Applicable

Line #	Generic Title/Role	On-Shift Position	Task Analysis Controlling Method
3	Mechanic	N/A	N/A
4	Electrician	N/A	N/A
5	I&C Technician	N/A	N/A
6	Other	N/A	N/A
7	Other	N/A	N/A

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

Fire Brigade

JAF TABLE 3 – FIREFIGHTING Analysis #4 – CR Evacuation & SFP Cooling		
Line #	Performed by	Task Analysis Controlling Method
1	NCO #1	Fire Protection Program
2	NCO #2	Fire Protection Program
3	NCO #3	Fire Protection Program
4	FB# 4	Fire Protection Program
5	FB# 5	Fire Protection Program

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

JAF TABLE 4 – RADIATION PROTECTION AND CHEMISTRY Analysis #4 – CR Evacuation & SFP Cooling																			
LINE	Position Performing Function / Task	Performance Time Period After Emergency Declaration (minutes)*																	
		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90
1	In-Plant Survey: N/A																		
2	On-site Survey: N/A																		
3	Personnel Monitoring: N/A																		
4	Job Coverage: N/A																		
5	Offsite Rad Assessment: <i>(Included in Table 5)</i>																		
6	Other site specific RP (describe): N/A																		
7	Chemistry Function task #1 (describe) – N/A																		
8	Chemistry Function task #2 (describe) – N/A																		

No specific time critical tasks were identified for RP or Chemistry for this event.

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

JAF TABLE 5 – EMERGENCY PLAN IMPLEMENTATION Analysis #4 – CR Evacuation & SFP Cooling			
Line #	Function / Task*	On-Shift Position	Task Analysis Controlling Method
1	Declare the emergency classification level (ECL)	Shift Manager	Emergency Planning Training Program / EP Drills
2	Approve Offsite Protective Action Recommendations	N/A	N/A
3	Approve content of State/local notifications	Shift Manager	Emergency Planning Training Program
4	Approve extension to allowable dose	N/A	N/A
5	Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	Shift Manager	Licensed Operator Training Program / Emergency Planning Training Program
6	ERO notification	Shift Manager	Emergency Planning Training Program
7	Abbreviated NRC notification for DBT event	N/A	N/A
8	Complete State/local notification form	CRS	Emergency Planning Training Program
9	Perform State/local notifications	CRS	Emergency Planning Training Program
10	Complete NRC event notification form	CRS	Licensed Operator Training Program
11	Activate ERDS*	N/A	N/A
12	Offsite radiological assessment	N/A	N/A
13	Perform NRC notifications	CRS	Licensed Operator Training Program
14	Perform other site-specific event notifications (e.g., Duty Plant Manager, INPO, ANI, etc.)	N/A	N/A
15	Personnel Accountability	N/A	N/A

* The ERDS requirement in Appendix E to 10 CFR Part 50 exempts “all nuclear power facilities that are shut down permanently” from the need to provide an ERDS interface with the NRC. Therefore, the JAF ERDS link to the NRC will not be operational in a permanently shut down and defueled condition. The task of ERDS activation is therefore not included as an on-shift task requiring evaluation as part of this staffing analysis.

E. Accident Analysis #5 –General Emergency with Radioactive Release and PAR

1. Accident Summary (Assumed for Staffing Analysis Purpose)
 - The FHA assumes the drop of a spent fuel assembly onto the spent fuel racks within the SFP resulting in breaking the fuel rods.
 - A General Emergency is declared when the Shift Manager is given a dose assessment update that projects >1 Rem TEDE dose at the site boundary.
2. Accident Specific Assumptions Made
 - The FSAR does not contain detailed radiological conditions or release rates to determine an EAL classification. This analysis, therefore, assumed a General Emergency declaration based on area radiation monitors reaching levels to prompt an emergency declaration.
 - Additional plant personnel, including Operations, Chemistry, and Radiation Protection Specialists, would be on-site during fuel assembly movement. Additional plant personnel were not required, however, to support initial response actions.
3. Procedures for Accident Response
 - IAP-1, Emergency Plan Implementation Checklist
 - IAP-2, Classification of Emergencies
 - EAP-1.1 Offsite Notifications
 - EAP-4, Dose Assessment
 - EAP-10 - R-22, PA Evacuation
 - EAP-5.3, Onsite/Offsite Downwind Surveys and Environmental Monitoring

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

4. Tables

JAF TABLE 1 – ON-SHIFT POSITIONS Analysis #5 –GE with PAR						
Line #	On-shift Position	E-Plan Reference	Augmentation Elapsed Time (min)	Role in Table # / Line #	Unanalyzed Task?	TMS Required?
1	SM	Emergency Plan Table 5-1	60	T2/L1 T5/L1 T5/L2 T5/L3 T5/L4 T5/L5 T5/L6	No	Yes ¹
2	CRS	Emergency Plan Table 5-1	N/A	T2/L2 T5/L8 T5/L9 T5/L10 T5/L13	No	Yes ²
3	NCO #1	Emergency Plan Table 5-1	N/A	N/A	No	No
4	NCO #2	Emergency Plan Table 5-1	N/A	N/A	No	No
5	NCO #3	Emergency Plan Table 5-1	N/A	N/A	No	No
6	FB #4	Emergency Plan Table 5-1	N/A	N/A	No	No
7	FB #5	Emergency Plan Table 5-1	N/A	N/A	No	No
8	RP	Emergency Plan Table 5-1	60	T4/L1 T4/L2 T5/L12	No	Yes ³
9	Security	Security Contingency Plan / Emergency Plan Table 5-1	N/A	T5/L15	No	No

¹ Guidance provided in Table 3.1 of NEI 10-05 indicates the need to perform a TMS to verify the results of this analysis. The Shift Manager is assigned the responsibility to make ERO notifications. A TMS was conducted during development of the December 2012 OSA and demonstrated that the Shift Manager was able to maintain Emergency Direction and Control during the approximate 2 minutes it took to notify the ERO using Everbridge. No further analysis or TMS is required to verify timely and effective implementation.

² See Section VIII.E

³ See Section II.C.1 for the exception taken for the Radiation Protection Specialist to perform dose assessment. No Time Motion Study or corrective action required.

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

JAF TABLE 2 – PLANT OPERATIONS & SAFE SHUTDOWN One Unit – One Control Room Analysis #5 – GE with PAR			
Minimum Operations Crew Necessary to Implement AOPs and EOPs if Applicable			
Line #	Generic Title/Role	On-Shift Position	Task Analysis Controlling Method
1	Shift Manager	SM	Licensed Operator Training Program
2	Unit Supervisor	CRS	Licensed Operator Training Program

Other (non-Operations) Personnel Necessary to Implement AOPs and EOPs if Applicable

Line #	Generic Title/Role	On-Shift Position	Task Analysis Controlling Method
5	Mechanic	N/A	N/A
6	Electrician	N/A	N/A
7	I&C Technician	N/A	N/A
8	Other	N/A	N/A
9	Other	N/A	N/A

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

Fire Brigade

JAF TABLE 3 – FIREFIGHTING Analysis #5 – GE with PAR		
Line #	Performed by	Task Analysis Controlling Method
1	N/A	N/A
2	N/A	N/A
3	N/A	N/A
4	N/A	N/A
5	N/A	N/A

This accident does not include the need for firefighting, first aid or search & rescue.

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

JAF TABLE 4 – RADIATION PROTECTION AND CHEMISTRY																			
Analysis #5 – GE with PAR																			
LINE	Position Performing Function / Task	Performance Time Period After Emergency Declaration (minutes)*																	
		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90
1	In-Plant Survey: RP																		
2	On-site Survey: RP																		
3	Personnel Monitoring: N/A																		
4	Job Coverage: As directed by the SM				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
5	Offsite Rad Assessment: <u>See Table 5</u>																		
6	Other site specific RP (describe): N/A																		
7	Chemistry Function task #1 (describe) N/A																		
8	Chemistry Function task #2 (describe) N/A																		

The on-shift Radiation Protection Specialist will perform the above task as directed by the Shift Manager. Tasks are not time critical. The on-shift Radiation Protection Specialist is available for dose assessment if a release occurs.

* Times indicated above are estimated.

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

JAF TABLE 5 – EMERGENCY PLAN IMPLEMENTATION Analysis #5 – GE with PAR			
Line #	Function / Task*	On-Shift Position	Task Analysis Controlling Method
1	Declare the emergency classification level (ECL)	Shift Manager	Emergency Planning Training Program / EP Drills
2	Approve Offsite Protective Action Recommendations	Shift Manager	Emergency Planning Training Program
3	Approve content of State/local notifications	Shift Manager	Emergency Planning Training Program
4	Approve extension to allowable dose	Shift Manager	Emergency Planning Training Program
5	Notification and direction to on-shift staff (e.g., to assemble, evacuate, etc.)	Shift Manager	Licensed Operator Training Program / Emergency Planning Training Program
6	ERO notification	Shift Manager	Emergency Planning Training Program
7	Abbreviated NRC notification for DBT event	N/A	N/A
8	Complete State/local notification form	CRS	Emergency Planning Training Program
9	Perform State/local notifications	CRS	Emergency Planning Training Program
10	Complete NRC event notification form	CRS	Licensed Operator Training Program
11	Activate ERDS*	N/A	N/A
12	Offsite radiological assessment	Radiation Protection Specialist	Emergency Planning Training Program
13	Perform NRC notifications	CRS	Licensed Operator Training Program
14	Perform other site-specific event notifications (e.g., Duty Plant Manager, INPO, ANI, etc.)	N/A	N/A
15	Personnel Accountability	Security	Security Training Program

* The ERDS requirement in Appendix E to 10 CFR Part 50 exempts “all nuclear power facilities that are shut down permanently” from the need to provide an ERDS interface with the NRC. Therefore, the JAF ERDS link to the NRC will not be operational in a permanently shut down and defueled condition. The task of ERDS activation is therefore not included as an on-shift task requiring evaluation as part of this staffing analysis.

VIII. **APPENDIX C – TIME MOTION STUDIES SUPPORTING THE STAFFING ANALYSIS**

A. **Analysis #1 – Design Basis Threat**

TIME MOTION STUDY OF OVERLAPPING TASKS

Analysis #1 Design Basis Threat

**TASK 1: Complete the State Notification Using RECS
JOB: Control Room Supervisor**

**TASK 2: Perform NRC Notification
JOB: Control Room Supervisor**

**TASK 3: Perform Event Mitigation
JOB: Control Room Supervisor**

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

PURPOSE:

Perform a Time Motion Study to evaluate whether the performance of notification actions assigned to the Control Room Supervisor is an acceptable task overlap to the Control Room Supervisor's primary emergency plan function of event mitigation.

NOTE:

The Time Motion Study should be completed in a manner that demonstrates notification actions while the Shift Manager is demonstrating the Emergency Director function.

Times for the activities performed are based on operating experience (e.g., drills, real events, etc.) and/or informed judgment with consideration given to the limited Operator actions in a permanently shutdown and defueled condition. Validation of actual times will be performed with updated procedures.

CONCLUSION:

The Time Motion Study demonstrated the Control Room Supervisor could perform the tasks of completing State, local and NRC notifications successfully, individually or in series, without impacting the ability of the CRS to remain in role providing support and oversight during the emergency.

LOCATION:

The response to this event was determined by conducting a tabletop of the event using the emergency plan and procedures and the applicable department procedures such as Operations emergency and abnormal operating procedures. The tabletop was performed in the EP Conference Room.

REQUIRED TOOLS/EQUIPMENT:

- a. IAP-1, E-Plan Implementation Checklist
- b. IAP-2, Classification of Emergencies
- c. EAP-1.1 Offsite Notifications

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

Function / Responsibility (Task) Analysis Template

Event: # 1

Site: FitzPatrick

Position: Control Room Supervisor

Line #: 8-10, 13

Function	Responsibility (Task)	Action Step	Duration (min)
1. Off-Site Notification	1.1 Complete the off-site notification form using RECS.	Retrieve Procedure EAP-1.1, "OFF-SITE NOTIFICATIONS".	2
		Complete Part 1 Notification Fact Sheet	Performed by Shift Manager
		Transmit Part 1 Notification Fact Sheet within 15 minutes of the emergency declaration, reclassification, initial PARs or PAR changes using the RECS phone. Activate RECS phone Perform Part 1 Notification Fact Sheet introductory announcement and roll call.	3-4
		TASK duration for complete notification form	6
2. NRC Notification	2.1 Complete NRC event notification form	Prepare Event Notification Worksheet	Performed by Shift Manager
		Transmit Event Notification Worksheet immediately after notification of New York State and Oswego County and not later than one hour after the declaration of an emergency.	3
		TASK duration for NRC notification	3
3. Event Mitigation	3.1 Assess and respond to plant conditions	Provide assistance to the Shift Manager in mitigating the event as directed.	6
		TASK duration for event mitigation	6
		TOTAL DURATION	15

Task Performer: Chris Smolinski

Position: Shift Manager

Date: 1/15/16

Evaluator: Jim Jones / Pete Cullinan

Position: Emergency Preparedness

Date: 1/15/16

B. Analysis #2 – Fuel Handling Accident

TIME MOTION STUDY OF OVERLAPPING TASKS

Analysis #2 Fuel Handling Accident

**TASK 1: Complete the State Notification Form Using RECS
JOB: Control Room Supervisor**

**TASK 2: Perform NRC Notification
JOB: Control Room Supervisor**

**TASK 3: Perform Event Mitigation
JOB: Control Room Supervisor**

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

PURPOSE:

Perform a Time Motion Study to evaluate whether the performance of notification and event mitigation actions assigned to the Control Room Supervisor are acceptable task overlaps to the Control Room Supervisor's primary emergency plan function of event mitigation.

After the dose assessment is complete, the Control Room Supervisor will formulate a Protective Action Recommendation (PAR) based on the dose assessment results.

NOTE:

The Time Motion Study should be completed with a stack release (GE level release) to demonstrate event mitigation actions while the Shift Manager is demonstrating the Emergency Director function. Stack Release Rate, Wind Direction, Wind Speed, and Stability Class as determined by the Simulator Instructors or the EP Representative or Instructor to require a PAR based on dose assessment.

Times for the activities performed are based on operating experience (e.g., drills, real events, etc.) and/or informed judgment with consideration given to the limited Operator actions in a permanently shutdown and defueled condition. Validation of actual times will be performed with updated procedures.

CONCLUSION:

The Time Motion Study demonstrated the Control Room Supervisor could perform the tasks of completing State, local and NRC notifications successfully, individually or in series, without impacting the ability of the CRS to remain in role providing support and oversight during the emergency.

LOCATION:

The response to this event was determined by conducting a tabletop of the event using the emergency plan and procedures and the applicable department procedures such as Operations emergency and abnormal operating procedures. The tabletop was performed in the EP Conference Room.

REQUIRED TOOLS/EQUIPMENT:

- a. IAP-1, E-Plan Implementation Checklist
- b. IAP-2, Classification of Emergencies
- c. EAP-1.1 Offsite Notifications
- d. EAP-4A, Onshift Dose Assessment
- e. EAP-4C, Protective Action Recommendation
- f. EAP-42, Obtaining Meteorological Data

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

Function / Responsibility (Task) Analysis Template

Event: # 2

Site: FitzPatrick

Position: Control Room Supervisor

Line #: 8-10, 13

Function	Responsibility (Task)	Action Step	Duration (min)
1. Off-Site Notification	1.1 Complete the off-site notification form using RECS.	Retrieve Procedure EAP-1.1, "OFF-SITE NOTIFICATIONS".	2
		Complete Part 1 Notification Fact Sheet	Performed by Shift Manager
		Transmit Part 1 Notification Fact Sheet within 15 minutes of the emergency declaration, reclassification, initial PARs or PAR changes using the RECS phone. Activate RECS phone Perform Part 1 Notification Fact Sheet introductory announcement and roll call.	3-4
		TASK duration for complete notification form	6
2. NRC Notification	2.1 Complete NRC event notification form	Prepare Event Notification Worksheet	Performed by Shift Manager
		Transmit Event Notification Worksheet immediately after notification of New York State and Oswego County and not later than one hour after the declaration of an emergency.	3
		TASK duration for NRC notification	3
3. Event Mitigation	3.1 Assess and respond to plant conditions	Provide assistance to the Shift Manager in mitigating the event as directed.	6
		TASK duration for event mitigation	6
		TOTAL DURATION	15

Task Performer: Chris Smolinski

Position: Shift Manager

Date: 1/15/16

Evaluator: Jim Jones / Pete Cullinan

Position: Emergency Preparedness

Date: 1/15/16

C. Analysis #3 – Aircraft Potential Threat

TIME MOTION STUDY OF OVERLAPPING TASKS

Analysis #3 Aircraft Potential Threat

TASK 1: Complete the State Notification Using RECS

JOB: Control Room Supervisor

TASK 2: Perform NRC Notification

JOB: Control Room Supervisor

TASK 3: Perform Event Mitigation

JOB: Control Room Supervisor

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

PURPOSE:

Perform a Time Motion Study to evaluate whether the performance of NRC notification actions assigned to the Control Room Supervisor is an acceptable task overlap to the Control Room Supervisor's primary emergency plan function of event mitigation.

NOTE:

The Time Motion Study should be completed in a manner that demonstrates notification actions while the Shift Manager is demonstrating the Emergency Director function.

Times for the activities performed are based on operating experience (e.g., drills, real events, etc.) and/or informed judgment with consideration given to the limited Operator actions in a permanently shutdown and defueled condition. Validation of actual times will be performed with updated procedures.

CONCLUSION:

The Time Motion Study demonstrated the Control Room Supervisor could perform the tasks of completing State, local and NRC notifications successfully, individually or in series, without impacting the ability of the CRS to remain in role providing support and oversight during the emergency.

LOCATION:

The response to this event was determined by conducting a tabletop of the event using the emergency plan and procedures and the applicable department procedures such as Operations emergency and abnormal operating procedures. The tabletop was performed in the EP Conference Room.

REQUIRED TOOLS/EQUIPMENT:

- a. IAP-1, E-Plan Implementation Checklist
- b. IAP-2, Classification of Emergencies
- c. EAP-1.1 Offsite Notifications

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

Function / Responsibility (Task) Analysis Template

Event: # 3

Site: FitzPatrick

Position: Control Room Supervisor

Line #: 8- 10, 13

Function	Responsibility (Task)	Action Step	Duration (min)
1. Off-Site Notification	1.1 Complete the off-site notification form using RECS.	Retrieve Procedure EAP-1.1, "OFF-SITE NOTIFICATIONS".	2
		Complete Part 1 Notification Fact Sheet	Performed by Shift Manager
		Transmit Part 1 Notification Fact Sheet within 15 minutes of the emergency declaration, reclassification, initial PARs or PAR changes using the RECS phone. Activate RECS phone Perform Part 1 Notification Fact Sheet introductory announcement and roll call.	3-4
		TASK duration for complete notification form	6
2. NRC Notification	2.1 Complete NRC event notification form	Prepare Event Notification Worksheet	Performed by Shift Manager
		Transmit Event Notification Worksheet immediately after notification of New York State and Oswego County and not later than one hour after the declaration of an emergency.	3
		TASK duration for NRC notification	3
3. Event Mitigation	3.1 Assess and respond to plant conditions	Provide assistance to the Shift Manager in mitigating the event as directed.	7
		TASK duration for event mitigation	7
		TOTAL DURATION	16

Task Performer: Chris Smolinski

Position: Shift Manager

Date: 1/15/16

Evaluator: Jim Jones / Pete Cullinan

Position: Emergency Preparedness

Date: 1/15/16

Analysis #4 – Control Room Fire Requiring Evacuation and Maintain SFP Cooling

TIME MOTION STUDY OF OVERLAPPING TASKS

Analysis #4

Control Room Fire Requiring Evacuation and Maintain SFP Cooling

TASK 1: Complete the State Notification Using RECS

JOB: Control Room Supervisor

TASK 2: Perform NRC Notification

JOB: Control Room Supervisor

TASK 3: Perform Event Mitigation

JOB: Control Room Supervisor

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

PURPOSE:

Perform a Time Motion Study to evaluate whether the performance of notification actions assigned to the Control Room Supervisor is an acceptable task overlap to the Control Room Supervisor's primary emergency plan function of event mitigation.

NOTE:

The Time Motion Study should be completed in a manner that demonstrates notification actions while the Shift Manager is demonstrating the Emergency Director function.

Times for the activities performed are based on operating experience (e.g., drills, real events, etc.) and/or informed judgment with consideration given to the limited Operator actions in a permanently shutdown and defueled condition. Validation of actual times will be performed with updated procedures.

CONCLUSION:

The Time Motion Study demonstrated the Control Room Supervisor could perform the tasks of completing State, local and NRC notifications successfully, individually or in series, without impacting the ability of the CRS to remain in role providing support and oversight during the emergency.

LOCATION:

The response to this event was determined by conducting a tabletop of the event using the emergency plan and procedures and the applicable department procedures such as Operations emergency and abnormal operating procedures. The tabletop was performed in the EP Conference Room.

REQUIRED TOOLS/EQUIPMENT:

- a. IAP-1, E-Plan Implementation Checklist
- b. IAP-2, Classification of Emergencies
- c. EAP-1.1 Offsite Notifications

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

Function / Responsibility (Task) Analysis Template

Event: # 4

Site: FitzPatrick

Position: Control Room Supervisor

Line #: 8-10, 13

Function	Responsibility (Task)	Action Step	Duration (min)
1. Off-Site Notification	1.1 Complete the off-site notification form using RECS.	Retrieve Procedure EAP-1.1, " <i>OFF-SITE NOTIFICATIONS</i> ".	4
		Complete Part 1 Notification Fact Sheet	Performed by Shift Manager
		Transmit Part 1 Notification Fact Sheet within 15 minutes of the emergency declaration, reclassification, initial PARs or PAR changes using the RECS phone. Activate RECS phone Perform Part 1 Notification Fact Sheet introductory announcement and roll call.	3-4
		TASK duration for complete notification form	8
2. NRC Notification	2.1 Complete NRC event notification form	Prepare Event Notification Worksheet	Performed by Shift Manager
		Transmit Event Notification Worksheet immediately after notification of New York State and Oswego County and not later than one hour after the declaration of an emergency.	3
		TASK duration for NRC notification	3
3. Event Mitigation	3.1 Assess and respond to plant conditions	Provide assistance to the Shift Manager in mitigating the event as directed.	6
		TASK duration for event mitigation	6
		TOTAL DURATION	17

Task Performer: Chris Smolinski

Position: Shift Manager

Date: 1/15/16

Evaluator: Jim Jones / Pete Cullinan

Position: Emergency Preparedness

Date: 1/15/16

Analysis #5 – General Emergency with Radioactive Release and PAR

TIME MOTION STUDY OF OVERLAPPING TASKS

Analysis #5 General Emergency with Radioactive Release and PAR

**TASK 1: Complete the Off-Site Notification Form Using RECS
JOB: Control Room Supervisor**

**TASK 2: Perform NRC Notification
JOB: Control Room Supervisor**

**TASK 3: Perform Event Mitigation
JOB: Control Room Supervisor**

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

PURPOSE:

Perform a Time Motion Study to evaluate whether the performance of notification and event mitigation actions assigned to the Control Room Supervisor are acceptable task overlaps to the Control Room Supervisor's primary emergency plan function of event mitigation.

After the dose assessment is complete, the Control Room Supervisor will formulate a Protective Action Recommendation (PAR) based on the dose assessment results.

NOTE:

The Time Motion Study should be completed with a stack release (GE level release) to demonstrate event mitigation actions while the Shift Manager is demonstrating the Emergency Director function. Stack Release Rate, Wind Direction, Wind Speed, and Stability Class as determined by the Simulator Instructors or the EP Representative or Instructor to require a PAR based on dose assessment.

Times for the activities performed are based on operating experience (e.g., drills, real events, etc.) and/or informed judgment with consideration given to the limited Operator actions in a permanently shutdown and defueled condition. Validation of actual times will be performed with updated procedures.

CONCLUSION:

The Time Motion Study demonstrated the Control Room Supervisor could perform the tasks of completing State, local and NRC notifications successfully, individually or in series, without impacting the ability of the CRS to remain in role providing support and oversight during the emergency.

LOCATION:

The response to this event was determined by conducting a tabletop of the event using the emergency plan and procedures and the applicable department procedures such as Operations emergency and abnormal operating procedures. The tabletop was performed in the EP Conference Room.

REQUIRED TOOLS/EQUIPMENT:

- a. IAP-1, E-Plan Implementation Checklist
- b. IAP-2, Classification of Emergencies
- c. EAP-1.1 Offsite Notifications
- d. EAP-4A, Onshift Dose Assessment
- e. EAP-4C, Protective Action Recommendation
- f. EAP-42, Obtaining Meteorological Data

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

Function / Responsibility (Task) Analysis Template

Event: # 5

Site: FitzPatrick

Position: Control Room Supervisor

Line #: 8-10, 12, 13

Function	Responsibility (Task)	Action Step	Duration (min)
1. Off-Site Notification	1.1 Complete the off-site notification form using RECS.	Retrieve Procedure EAP-1.1, "OFF-SITE NOTIFICATIONS".	2
		Complete Part 1 Notification Fact Sheet	Performed by Shift Manager
		Transmit Part 1 Notification Fact Sheet within 15 minutes of the emergency declaration, reclassification, initial PARs or PAR changes using the RECS phone. Activate RECS phone Perform Part 1 Notification Fact Sheet introductory announcement and roll call.	4
		TASK duration for complete notification form	6
2. NRC Notification	2.1 Complete NRC event notification form	Prepare Event Notification Worksheet	Performed by Shift Manager
		Transmit Event Notification Worksheet immediately after notification of New York State and Oswego County and not later than one hour after the declaration of an emergency.	3
		TASK duration for NRC notification	3
3. Event Mitigation	3.1 Assess and respond to plant conditions	Provide assistance to the Shift Manager in mitigating the event as directed.	6
		TASK duration for event mitigation	6
		TOTAL DURATION	15

Task Performer: Chris Smolinski

Position: Shift Manager

Date: 1/15/16

Evaluator: Jim Jones / Pete Cullinan

Position: Emergency Preparedness

Date: 1/15/16

JAF ANALYSIS OF PROPOSED POST-SHUTDOWN ON-SHIFT STAFFING

IX. OVERLAP OF TASKS ACTIVITIES OR OTHER CONFLICTS IDENTIFIED

- A. Overlap Requiring Compensatory Measures
- None

X. REFERENCES

- Letter, Entergy Nuclear Operations, Inc. to USNRC, "Notification of Permanent Cessation of Power Operations," JAFP 15-0133, dated November 18, 2015
- NEI 10-05, Rev 0, *Assessment of On-Shift Emergency Response Organization Staffing and Capabilities*
- NSIR/DPR-ISG-01, *Interim Staff Guidance – Emergency Planning for Nuclear Power Plants*
- Letter, Entergy Nuclear Operations, Inc. to USNRC "Request for Approval of Certified Fuel Handler Training Program," JAFP 15-0142, dated January 15, 2016
- Letter, Entergy Nuclear Operations, Inc. to USNRC, "Technical Specifications Proposed Change No. 307, Revision to Mitigation Strategy License Condition and Technical Specification Administrative Controls for Permanently Defueled Condition," JAFP 15-0143, dated January 15, 2016
- NUREG-0654, *Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants.*
- JAF Emergency Plan, Section 5, Rev 50
- James A. FitzPatrick Nuclear Power Plant On-Shift Staffing Analysis Final Report, Rev. 0, December 20, 2012.
- James A. FitzPatrick Nuclear Power Plant On-Shift Staffing Analysis, Rev. 1, October 8, 2013.

XI. STAFFING ANALYSIS TEAM

The staffing analysis team consisted of plant and Entergy Corporate staff representing the following departments / organizations:

- Fleet Emergency Preparedness Project Management
- Operations
- Training
- Security
- Chemistry
- Radiation Protection
- Regulatory Assurance
- Emergency Planning

Attachment 5

James A. FitzPatrick Nuclear Power Plant
Emergency Response Organization Task Analysis

ERO POSITION MATRIX

Current ERO Position	EN-EP-801 Tasks (F#)	Other Procedural Tasks (P#)	Implementing Actions	Position eliminated?	Task Assigned to?	Min Staffing?	Key NRC PI?	Procedure(s) E-Plan section	Regulatory Requirement
EMERGENCY OPERATIONS FACILITY									
Emergency Director	F1. Receive turnover from the ED and assume command/control of EOF and activities outside the area controlled by the TSC F2. Direct the activation, operation and deactivation of the EOF. F3. Prepare and facilitate facility briefings F4. Upgrade the emergency classification level. (cannot delegate) F5. Make protective action recommendations (PAR) to offsite agencies (cannot delegate) F6. Direct and approve offsite notification to State and local agencies (cannot delegate) F7. Communicate within and between the emergency response facilities F8. Ensure event information is communicated to other organizations (NRC, Entergy Corp, etc.) to keep them informed of the emergency situation. F9. Direct the activities of the EOF organization in support of the TSC and offsite response agencies. (County, Parish and State) F10. Direct protective actions for offsite monitoring teams, EOF ERO and offsite resources. F11. Request assistance from offsite agencies, excluding requests for offsite medical/fire, security assistance. (Coordinate request for Federal assistance through the State) F12. Integrate off-site responders with site response efforts when required. F13. Authorize issuance of KI and radiation exposure in excess of 10CFR 20 limits for ERO members outside of the protected area. F14. Authorize press releases (cannot delegate) F15. Direct facility relocation to the alternate EOF (where applicable) F16. Determine reportability actions for non-emergency reportable events during an emergency (hazardous material spills, contaminated injured personnel, and so forth). F17. Conduct turnover of command and control to relief ED. F18. Terminate the event in accordance with procedures (cannot delegate) F19. Establish and direct recovery actions	P1. Fill vacant positions if needed P2. Maintain a log P3. De escalation to the Recovery Phase	F3 - task from EOF Manager	No	N/A	Yes	Yes	EN-EP-609, Att. 9.1 Eplan, 5.3.1 Eplan Table 5-1 EAP-46, Att. 1A	F1. NUREG 0654 II.A.1.d/II.B.3/II.B.5 F11/P1. NUREG 0654 II.A.4 F4. NUREG 0654 II.B.4 F5. NUREG 0654 II.B.4/II.J.7 F6. NUREG 0654 II.B.4 F5./F8. NUREG 0654 II.B.7.c F11. NUREG 0654 II.B.7.a/II.C.1.a F13. NUREG 0654 II.K.2 F14. NUREG 0654 II.B.4/II.B.7.d F18. NUREG 0654 II.B.4 F19/P3. NUREG 0654 II.B.7.b/II.K.6.c/II.M.2
Radiological Assessment Coord	F1. Direct the activities of the dose assessor and radiological offsite monitoring teams. F2. Evaluate dose assessment results and recommendations. F3. Determine dose consequences F4. Communicate dose projection results to the ED to determine classification or PAR. F5. Keep the ED appraised of offsite radiological conditions. F6. Maintain awareness of dose projections generated by NRC, state and utility models and recognize differences. F7. Provide overall liaison and coordination of efforts in the area of field team data with State Radiological Personnel. F8. Brief offsite authorities responding to the EOF on radiological information. F9. Contact the NRC on Health Physics Network (HPN) Line. (Can be designated to another staff member) F10. Direct possible predictive and worst-case dose projections. F11. Monitor or direct monitoring of ERF habitability. F12. Ensure facility emergency ventilation in service (where applicable) F13. Recommend EOF relocation based on environmental conditions and provide radiological guidance for the EOF evacuation, where applicable. F14. Monitor information from displays or reports to detect changes that affect dose assessment. F15. Establish radiological controls for supplemental and relief personnel responding to the station. F16. Recommend emergency exposure limits and KI for EOF ERO or offsite monitoring teams F17. Coordinate the administration of KI.	P1. Maintain a log P2. Assist ED in conduct of briefings P3. Assist the ED with termination to recovery phase	N/A	No	N/A	Yes	Yes	EN-EP-609, Att. 9.5 Eplan 5.3.9 EAP-46, Att. 1D	F9. NUREG 0654 II.A.1.e
Off-site Communicator	F1. Ensure the Emergency Director approves all notifications forms to State/Local agencies. F2. Make notification to the State and local agencies as required by regulations using primary and backup notification system. F3. Verify State and local agencies received and understand the notification F4. Make follow-up notifications F5. Maintain records of all notifications and communications	N/A	P1 - task from EOF Manager	No	N/A	Yes	Yes	EN-EP-609, Att. 9.6 Eplan 5.3.10 EAP-46, Att. 1E	F2. NUREG 0654 II.A.1.e
Technical Advisor	F1. Maintain contact with the TSC and Control Room to obtain current plant and emergency status F2. Monitor plant computer system parameters. F3. Recommend actions on classification of emergencies F4. Support PAR decision making/determination.	P1. Provide the Offsite Communicator the completed, "Emergency Notification Form" following ED's approval. P2. Assist Emergency Director in conduct of briefings. P3. Request TSC to fax plant parameter sheets to the EOF if PDS is unavailable	F1 - task from EOF Communicator P2 - task from EOF Manager P2 - task from EOF Logkeeper	No	N/A	No	No	EN-EP-609, Att. 9.3 EAP-46, Att. 1C	N/A

ERO POSITION MATRIX

Current ERO Position	EN-EP-801 Tasks (F#)	Other Procedural Tasks (P#)	Implementing Actions	Position eliminated?	Task Assigned to?	Min Staffing?	Key NRC PI?	Procedure(s) E-Plan section	Regulatory Requirement
EOF Manager	F1. Direct activities of the EOF personnel F2. Assure staffing and timely activation of the EOF F3. Obtain additional resources through the Admin/Logistics Coordinator when necessary F4. Brief and assist offsite authorities responding to the EOF F5. Assist Rad Assessment Coordinator with facility habitability and emergency ventilation system operation per procedure (site specific) F6. Ensure correct and timely State and local notifications are made within regulatory requirements F7. Ensure WebEOC or status boards are maintained F8. Notify Entergy Corporate Office and Corporate Emergency Center	P1. Ensure communication is available to the offsite agencies via primary or alternate notification method via verbal concurrence by the Offsite Communicator P2. Ensure communication is available to the Control Room via verbal concurrence by the EOF Technical Advisor P3. Ensure appropriate personnel staff the EOF entrance and screens incoming personnel for FFD P4. Ensure Radiological monitoring and dose assessment capabilities are available in the EOF via verbal concurrence by the Radiological Assessment Coordinator P5. Provide notifications that EOF is operational P6. Direct the Radiological Assessment Coordinator to assess on site and off site radiological conditions P7. Coordinate with the Radiological Assessment Coordinator and Offsite Team Coordinator to ensure the needs of the States' offsite communicators are met P8. Notify the Administration and Logistics Coordinator upon arrival of security contractor P9. Keep the Emergency Director informed of changing conditions that may cause a change in the Emergency Classification P10. Assist the ED in determining the appropriate Protective Action Recommendations to Offsite Authorities P11. Ensure periodic updates are communicated to offsite authorities P12. Assist the ED in the review of news releases P13. Assist the ED in periodic facility briefings P14. Assist the RAC with KI P15. Obtain Control Room official time (time on their clock) and coordinate with the Public Information Liaison the synchronization of the EOF time with the Control Room P16. Ensure current classification level is posted throughout the facility P17. Activate ERDS P18. Coordinate with Administration and Logistics Coordinator to obtain needed resources P19. Assist in termination to Recovery Phase	Eliminate Position F4 - eliminate task (already done by Lead Offsite Liaison(F1)) F5 - eliminate task F6 - eliminate task (Off-Site Comm doing) F7 - eliminate task P6 - eliminate task P7 - eliminate task P8 - eliminate task P9 - eliminate task (TA already doing) P10 - eliminate task P11 - eliminate task (Off-Site Comm already doing) P12 - eliminate task (ED doing) P13 - eliminate task (ED doing) P14 - eliminate task (RAC doing) P15 - eliminate task P16 - eliminate task P17 - eliminate task P18 - eliminate task (ALC doing) P19 - eliminate task (ED doing)	Yes	F1 - eliminate - ED already responsible for this task (F2) F2 - eliminate - ED already responsible for this task (F2) F3 - Emergency Director F8 - Admin & Logistics coord P1 - eliminate (Off-Site Comm doing) P2 - EOF Tech Advisor P3 - Admin & Logistics Coord P4 - Eliminate - Rad Assess Coord already responsible P5 - eliminate (ED doing)	Yes	No	EN-EP-609, Att. 9.2 Eplan 5.3.5 EAP-46, Att. 1B	N/A
EOF Communicator	F1. Transmit and receive information from onsite ERF's. F2. Ensure EOF is notified of information received of significant changes in plant conditions (e.g., start of a release, LOCA, EAL conditions) F3. Document information on the required forms or WebEOC F4. Assist the EOF Manager with other non-regulatory notifications or communications	N/A	Eliminate Position F2 - eliminate task (EOF TA doing) F3 - eliminate task F4 - eliminate task	Yes	F1 - EOF Tech Adv	No	No	EN-EP-609, Att. 9.14 EAP-46, Att. 1K	N/A
EOF Log Keeper	F1. Maintain a chronological log of emergency status and EOF activities on WebEOC or other acceptable method F2. Ensure timeliness of facility briefs by prompting the Emergency Director of the briefing schedule if necessary F3. Support the EOF Manager / ED as requested	P1. Distribute Emergency Notification Forms received from the Offsite Communicator P2. Display the repair and corrective action team status via WebEOC, if available	Eliminate position F1 - eliminate task (ED already does this) F2 - eliminate task F3 - eliminate task	Yes	F1 - Emergency Director already doing (P2) P1 - Lead Offsite Liaison P2 - Tech Advisor	No	No	EN-EP-609, Att. 9.4	N/A
Lead Offsite Liaison	F1. Obtain plant information and ensure the offsite agencies located in the EOF and the offsite liaisons are briefed on the plant conditions.	N/A	P1 - task from EOF Log Keeper	No	N/A	Yes	No	EN-EP-609, Att. 9.8 Eplan 5.3.4 EAP-46, Att. 1F	N/A
Admin & Logistics Coord	F1. Manage 24 hour staffing of the emergency response facilities. F2. Manage logistics for supporting the onsite and offsite emergency response such as additional support personnel or equipment, meals, lodging, etc. F3. Coordinate access security measures in the EOF if applicable	N/A	F8 - task from EOF Manager P3 - task from EOF Manager P7 - task from TSC Manager	No	N/A	Yes	No	EN-EP-609, Att. 9.10 EAP-46, Att. 1H	F1. NUREG 0654 II.A.1.e F1./F2. NUREG 0654 II.A.4 F2. NUREG 0654 II.B.7.a
IT Specialist	F1. Monitor facility equipment (computer related and communications) to ensure adequate operation F2. Resolve any IT related malfunctions F3. Verify or perform ERDS activation. F4. Assist with issues related to WebEOC, if available	N/A	Eliminate position F3 - eliminate task	Yes	F1 - IT Helpdesk F2 - IT Helpdesk F4 - IT Helpdesk	No	No	EN-EP-609, Att. 9.11	N/A
Dose Assessor	F1. Support the radiological activities of the EOF F2. Obtain data from offsite monitoring team reports, meteorological and radiological data, and plant data F3. Perform dose projection calculations using plant data and offsite monitoring team data. F4. Perform possible predictive (what-if) and worst case dose projections when directed F5. Provide offsite dose projection information to the RAC F6. Monitor available parameter indications to detect changes that affect dose assessment. F7. Perform dose projections using primary and backup methods	N/A	N/A	No	N/A	Yes	No	EN-EP-609, Att. 9.12 EAP-46, Att. 1I	N/A

ERO POSITION MATRIX

Current ERO Position	EN-EP-801 Tasks (F#)	Other Procedural Tasks (P#)	Implementing Actions	Position eliminated?	Task Assigned to?	Min Staffing?	Key NRC PI?	Procedure(s) E-Plan section	Regulatory Requirement
Off-site Team Coordinator	F1. Maintain communications with offsite monitoring teams (OMT). F2. Employ and direct OMT based on radiological /met information. F3. Supervise/develop a plume tracking strategy. F4. Log communications with OMT to include dose /air sample survey results, dosimeter reading, etc. F5. Ensure radiological information is communicated to the RAC for possible modifications to the dose calculations F6. Support coordination of efforts in the area of offsite monitoring team data with State radiological personnel F7. Ensure team is aware of changing plant / meteorological conditions F8. Ensure team is notified on KI requirements	N/A	N/A	No	N/A	No	No	EN-EP-609, Att. 9.9 EAP-46, Att. 1G	F1. NUREG 0654 II.A.1.e
Offsite Liaisons (2)	F1. Obtain plant information and ensure the offsite agencies located in the EOC are briefed on the plant conditions. F2. Clarify plant conditions, respond to questions, etc. for the offsite agencies.	N/A	N/A	No	N/A	No	No	EN-EP-609, Att. 9.13 Eplan 5.3.12 EAP-46, Att. 1J	F1./F2. NUREG 0654 II.C.2.b
Monitoring Team - No. 1 (2)	F1. Perform activities directed by the OTC to support plume tracking and measurements F2. Monitor self reading dosimeters and report results back to the OTC F3. Implement KI protective measures when notified by the OTC	N/A	N/A	No	N/A	No	No	EN-EP-609, Att. 9.18 Eplan Table 5-1	F1. NUREG 0654 II.B.5, Table B-1
Monitoring Team - No.2 (2)	F1. Perform activities directed by the OTC to support plume tracking and measurements F2. Monitor self reading dosimeters and report results back to the OTC F3. Implement KI protective measures when notified by the OTC	N/A	N/A	No	N/A	No	No	EN-EP-609, Att. 9.18 Eplan Table 5-1	F1. NUREG 0654 II.B.5, Table B-1
Clerical/Reception Staffing Desk	N/A	EAP-46 - Check credentials of arriving personnel	Eliminate Position Eliminate task	Yes	N/A	No	No	EAP-46, Att. 1L	N/A
TECHNICAL SUPPORT CENTER									
Emergency Plant Manager	F1. Direct the activation, operation and deactivation of the TSC F2. Assume command and control of the TSC and OSC and the onsite mitigation efforts F3. Provide information and recommendations to the ED regarding the classification of an emergency F4. Prepare and facilitate facility briefings F5. Verify event classifications F6. Ensure timely ENS notifications F7. Perform accident assessment to prioritize mitigation actions. F8. Coordinate the activities of the CR, TSC and OSC F9. Direct personnel evacuation, assembly and accountability of non-essential personnel F10. Provide information and recommendations to the ED regarding plant activities F11. Advise the ED on core damage and plant conditions for classification and PAR determination. F12. Direct the organization, coordination, and prioritization of repair corrective action teams F13. Direct onsite protective actions F14. Authorize emergency radiation exposure and issuance of KI to recommended personnel in the CR, TSC or OSC or to Security personnel. F15. Make operational decisions involving the safety of the plant and its personnel and make recommendations to the Control Room Personnel F16. Initiate immediate corrective actions to limit or contain the emergency invoking the provisions of 10 CFR 50.54(x) if appropriate F17. Implement severe accident management procedure strategies F18. Direct relocation to an alternate location. F19. Integrate offsite responders with on-site response efforts when required F20. Perform emergency termination duties	P1. Maintain a log P2. Maintain adequate staffing, access control, and 24-hour functional continuity of the CR, TSC, and OSC	F1 - task from TSC Communicator F1 - task from TSC Manager F5 - task from TSC Manager F7 - task from TSC Manager F9 - task from TSC Manager	No	N/A	Yes	Yes	EN-EP-610, Att. 9.1 Eplan 5.3.2 EAP-46, Att. 2A	F2. NUREG 0654 II.A.1.d/II.B.3 P2. NUREG 0654 II.J.5 F14. NUREG 0654 II.K.2
TSC Manager	F1. Assure staffing/timely activation of the TSC. F2. Notify EPM when operational conditions exist. F3. Recognize and implement all technical aspects of accident mitigation for the emergency. F4. Perform technical assessments and communicate the conclusions to the EPM. F5. Set priorities for the TSC personnel/OSC Teams. F6. Assist the EPM to make operational decisions concerning the safety of the plant. F7. Oversee the activities for relocation to an alternate location. F8. Direct the tracking of plant configuration changes. F9. Deactivate the TSC when the emergency is terminated.	P1. Synchronize the TSC time with CR time P2. Maintain log P3. Verify ERDS is activated P4. Participate in periodic briefings with EPM P5. Direct EOP questions to the Operations Coordinator P6. Establish communications as needed with the Entergy Engineering Groups for engineering support functions P7. Notify NSSS vendor and other vendors of emergency conditions, as required	Eliminate position P1 - eliminate task P2 - eliminate task (already done by EPM) F2 - eliminate task F3 - eliminate task F4 - eliminate task F6 - eliminate task P3 - eliminate task P4 - eliminate task P5 - eliminate task P6 - eliminate task	Yes	F1 - EPM F5 - EPM F7 - EPM F8 - Ops Coord F9 - EPM P7 - ALC	Yes	No	EN-EP-610, Att. 9.2 Eplan 5.3.3 EAP-46, Att. 2B	N/A

ERO POSITION MATRIX

Current ERO Position	EN-EP-801 Tasks (F#)	Other Procedural Tasks (P#)	Implementing Actions	Position eliminated?	Task Assigned to?	Min Staffing?	Key NRC PI?	Procedure(s) E-Plan section	Regulatory Requirement
Operations Coordinator	1. Coordinate TSC efforts in determining the nature and extent of emergencies pertaining to equipment and plant facilities in support of Control Room actions. 2. Perform accident assessment activities. 3. Provide assistance to initiate immediate corrective actions to limit or contain the emergency invoking the provisions of 10 CFR 50.54(x)1 if appropriate, and specifically when addressing Severe Accident Management Guidelines (SAMG/SAG). 4. Recommend equipment operations checks and miscellaneous actions to the Control Room in support of restoration and accident mitigation. 5. Approve emergency special procedures, and implement as required under the provisions of 10 CFR 50.54(x)1 if qualified. 6. Recommend changes in plant priorities. 7. Assist the Maintenance Coordinator in determining the priority assigned to OSC activities. 8. Coordinate additional staffing for the Control Room if requested by the SM. 9. Provide input on event classification. 10. Assist the EPM in evaluating changes in event classification. 11. At the direction of the EPM, assume the duties and responsibilities of the Evaluator, or Decision-Maker if qualified, when transition to Severe Accident Management Guidelines (SAMG/SAG) is initiated. 12. Inform the TSC of the overall plant condition and significant changes to system and equipment status. 13. Ensure the Control Room, TSC, and EOF is informed of significant changes in event status (e.g. changes in classification, command and control, initiation of station assembly, accountability, evacuation, etc.). 14. Coordinate CR request for operations activities outside of the Control Room 15. Provide technical assistance to the Shift Manager. 16. Recommend strategies and actions to prevent severe core damage and containment failure and reduce radiological releases.	P1. Monitor fission product barrier and plant status P2. Complete the Essential Information Form to support periodic briefs as requested by the EPM P3. Provide technical support to OSC teams	F8 - task from TSC Mgr	No	N/A	No	Yes	EN-EP-610, Att. 9.3 Eplan 5.3.8 EAP-46, Att. 2C	N/A
Radiological Coordinator	F1. Assess radiological conditions to develop radiological plans. F2. Keep the TSC Manager informed of the radiological conditions. F3. Obtain and evaluate data on plant conditions such as meteorological and radiological monitoring readings, and other pertinent data. F4. Ensure that appropriate bioassay procedures have been implemented for onsite personnel when a radioactivity incident has occurred. F5. Recommend authorization of personnel emergency exposure limits. F6. Advise the TSC Manager when use of KI should be considered and coordinate the issuance if approved. F7. Recommend evacuation based on environmental conditions F8. Advise the TSC Manager and EOF Radiological Assessment Coordinator of changes in radiological release status. F9. Assist in planning rescue operations and provide monitoring services as required, including the transfer of injured and/or contaminated personnel. F10. Coordinate with the Security Coordinator to determine the routes to be used for evacuation of non-essential personnel and BRE's. F11. Evaluate and request additional radiation protection personnel and/or equipment. F12. Advise the Rad Chem Coordinator in the OSC of changes in plant conditions or equipment that may change radiological conditions onsite.	P1. Establish and maintain radiological habitability. P2. Maintain a log P3. Direct decontamination efforts of personnel, equipment, and onsite areas as appropriate P4. Suspend normal RWP requirements for performing work in radiological controlled areas if necessary. P5. Document radiological readings taken by RP Technicians or other meter qualified individuals in the field on survey maps. P6. Establish and maintain dosimetry, protective clothing, and other protective equipment requirements for onsite ERO personnel P7. Control the issuance of KI to onsite emergency workers. P8. Evaluate iodine uptakes for persons issued KI, informing contracted medical representatives of KI issuance.	F1 - task from Rad/Chem Coord F2 - task from Rad/Chem Coord F3 - task from Rad/Chem Coord F4 - task from Rad/Chem Coord F6 - task from Rad/Chem Coord F7 - task from Rad/Chem Coord F12 - task from Rad/Chem Coord F12. Change to OSC Manager F8. Change to EPM and EOF RAC	No	N/A	Yes	Yes	EN-EP-610, Att. 9.9 Eplan 5.3.9	F9. NUREG II.K.1.a P3. NUREG II.K.1.e
Engineering Coordinator	F1. Provide technical guidance to support repair activities. F2. Recommend strategies and actions to prevent severe core damage and containment failure and reduce radiological releases. F3. Coordinate Engineering work requests with the Engineering support team. F4. Provide results back to the TSC Manager. F5. Support SAMG activities and strategies. F6. Direct tracking and trending of parameters. F7. Direct the development of emergency repair procedures to support emergency teams. F8. Track plant configuration changes.	P1. Maintain a log P2. Coordinate with Non Entergy engineering support (INPO, Mutual Assistance, Westinghouse, Equipment Vendors and/or NRC Engineers) P3. Confirm any sample requests for chemistry sampling contain details on the type of information that is necessary P4. Provide engineering support for OSC activities as requested	F4 - eliminate task F5 - eliminate task - SAMG no longer required	No	N/A	Yes	Yes	EN-EP-610, Att. 9.5 Eplan 5.3.6	N/A
Maintenance Coordinator	F1. Communicate the request for repair and corrective teams to the OSC Work Control Coordinator. F2. Prioritizes the requests with the TSC Manager.	P1. Provide operational guidance and recommendations on equipment operations P2. Identify emergency repairs that can be undertaken to restore and maintain equipment operability and plant safety P3. Assist in developing emergency procedures if needed P4. Assist the OSC Coordinators in preparing to send repair teams into the plant P5. Maintain manpower status to ensure OSC is adequately staffed to support	F1 - change to OSC Manager F2 - eliminate task P1 - task from TSC Comm	No	N/A	Yes	Yes	EN-EP-610, Att. 9.11 Eplan 5.3.7	N/A
TSC Communicator	F1. Maintain facility log on WebEOC or other acceptable method. F2. Ensure timeliness of facility briefs by prompting EPM to develop and adhere to briefing schedule F3. Communicate between the ERF's if necessary regarding plant status or WebEOC entries. F4. Support the EPM/TSC Manager as requested.	P1. Maintain communications as necessary with satellite Entergy response groups outside the ERFs P2. Keep aware of Control Room personnel actions and procedures being implemented. Notify TSC Engineers if appropriate. P3. Work with other members of the TSC staff to provide support to the Control Room to mitigate the effects of the event and return the plant to a safe condition.	Eliminate position F2 - eliminate task F3 - eliminate task F4 - eliminate task	Yes	F1 - EPM P1 - Maintenance Coord P2 - eliminate task - Ops Coord already doing P3 - eliminate task - Ops Coord already doing	No	No	EN-EP-610, Att. 9.8	N/A

ERO POSITION MATRIX

Current ERO Position	EN-EP-801 Tasks (F#)	Other Procedural Tasks (P#)	Implementing Actions	Position eliminated?	Task Assigned to?	Min Staffing?	Key NRC PI?	Procedure(s) E-Plan section	Regulatory Requirement
ENS Communicator	F1. Prepare the NRC notification worksheet. F2. Establish and maintain communications with the NRC via the ENS phone. F3. Prepare follow-up notifications F4. Monitor plant computer parameters and provide plant status to the NRC. F5. Use backup NRC notification method if ENS line fails.	P1. Maintain a log P2. Assist the Engineering Coordinator as necessary in obtaining plant data	N/A	No	N/A	No	No	EN-EP-610, Att. 9.12 EN-EP-610, Att. 9.13	F2. NUREG 0654 II.A.1.e
Reactor Engineer	1. Determine and provide estimation of core damage. 2. Assist in Severe Accident Management Guideline implementation. 3. Provide core parameter information results back to the TSC Manager.	N/A	Eliminate position - no Reactor Eng. responsibilities to transfer	Yes	N/A	No	No	EN-EP-610, Att. 9.4	N/A
TSC Engineer - Mechanical	F1. Respond to engineering requests from the Engineering Coordinator. F2. Evaluate SAM/SAG strategy implementation when designated	P1. Assist the OSC Mechanical and I&C/Electrical Coordinators in preparing to se	Eliminate position - eliminate tasks	Yes	N/A	No	No	EN-EP-610, Att. 9.6	F1. NUREG 0654 II.B.5 (Table B-1)
TSC Engineer - Electrical/I&C	F1. Respond to engineering requests from the Engineering Coordinator. F2. Evaluate SAM/SAG strategy implementation when designated	P1. Assist the OSC Mechanical and I&C/Electrical Coordinators in preparing to se	Eliminate position - eliminate tasks	Yes	N/A	No	No	EN-EP-610, Att. 9.6	F1. NUREG 0654 II.B.5 (Table B-1)
IT Specialist	F1. Monitor facility equipment (computer related and communications) to ensure adequate operation F2. Resolve any IT related malfunctions F3. Verify or perform ERDS activation. F4. Assist with issues related to WebEOC, if available	N/A	Eliminate position - eliminate tasks	Yes	N/A	No	No	N/A	N/A
Security Coordinator	F1. Overall coordination of the offsite assistance for the security related response. F2. Designated National Incident Management System (NIMS) Liaison between the Incident Command Post (ICP) and Site Organization. F3. Coordinate accountability F4. Keep security force advised of emergency status F5. Coordinate with Radiological Coordinator regarding protective actions for the security force. F6. Keep the ED/EPM informed of any security contingency event which may be occurring and response in progress F7. Coordinate the dispatch of security officers to evacuation assembly areas and keep the ED/EPM informed of evacuation accountability.	P1. Provide assistance in evaluating plant equipment/system(s) to determine if malfunctionsare related to sabotage. P2. Coordinate assistance to monitoring teams by permitting access to owner controlled areas normally gated off.	N/A	No	N/A	No	Yes	EN-EP-610, Att. 9.10 Eplan 5.3.11	
OPERATIONS SUPPORT CENTER									
OSC Manager	F1. Direct the activation, operation and deactivation activities of the OSC. F2. Coordinate and/or prioritize assessment and corrective actions with the TSC. F3. Provide periodic briefings to the OSC personnel. F4. Support the formation, briefing and debriefing of teams. F5. Maintain communications with the CR and the TSC to inform of OSC teams activities. F6. Ensure timely dispatch of the teams and mobilize other required support personnel. F7. Ensure work task priorities are being maintained. F8. Maintain OSC accountability. F9. Coordinate movement of OSC personnel to a habitable location or alternate OSC if conditions degrade. F10. Identify and request resources, equipment and supplies to support the OSC.	P1. Maintain adequate OSC Staffing	F1 - task from OSC Log Keeper F2 - task from Work Control Coord F1 - task from Work Coords F2 - task from Work Coords F3 - task from Work Coords F4 - task from Work Coords F5 - task from Work Coords F2 - task from Ops Support	No	N/A	Yes	Yes	EN-EP-611, Att.9.1 EAP-46, Att. 3A	N/A
Work Control Coordinator	F1. Coordinate the formation, briefing and debriefing of repair and corrective action teams and onsite monitoring teams F2. Maintain communications with the Maintenance Coordinator in the TSC F3. Capture and track (log) repair/corrective action teams, search/rescue teams, onsite monitoring teams and other support personnel to ensure timely dispatch of teams	N/A	Eliminate position F1 - eliminate task (already done by OSCM) F3 - eliminate task (already done by OSCM)	Yes	F2 - OSC Manager	Yes	No	EN-EP-611, Att. 9.3	N/A
OSC Log Keeper	F1. Maintain facility log F2. Ensure timeliness of facility briefs by prompting the OSC Manager of the briefing schedule if necessary. F3. Support the OSC Manager as requested	N/A	Eliminate position F2 - eliminate task F3 - eliminate task	Yes	F1 - OSC Manager	No	No	EN-EP-611, Att. 9.6	N/A

ERO POSITION MATRIX

Current ERO Position	EN-EP-801 Tasks (F#)	Other Procedural Tasks (P#)	Implementing Actions	Position eliminated?	Task Assigned to?	Min Staffing?	Key NRC PI?	Procedure(s) E-Plan section	Regulatory Requirement
Rad/Chem Coordinator	F1. Coordinate RP activities, including on-site radiological assessment, personnel exposure control, and radiation protection programs. F2. Ensure use of protective clothing, respiratory protection, and access control within the plant is deemed appropriate to control personnel exposures. F3. Deploy onsite radiation monitoring teams to survey radiation levels and sample for contamination. F4. Ensure habitability of the TSC and/or OSC and habitability of Control Room (where applicable) F5. Ensure that personnel are decontaminated, if necessary. F6. Conduct/provide assistance for the rad briefings to support the dispatch of the repair/corrective action teams and chemistry/ RP sampling. F7. Communicate rad/chemistry sample results to the TSC and/or CR. F8. Coordinate the transport of potentially contaminated or highly exposed personnel to off-site medical facilities. F9. Determine the necessity for emergency exposure limits and KI issuance and communicate conditions to the TSC. F10. Provide radiological support for evacuations, medical response, fire response and search and rescue. F11. Ensure emergency ventilation filtration system is started per procedures (site specific). F12. Establish chemistry sampling priorities. F13. Debrief returning emergency teams.	N/A	Eliminate position F5 - Eliminate task (already done by RP Coord) F8 - Eliminate task (already done by RP Coord) F9 - Eliminate task (already done by RP Coord) F10 - Eliminate task (already done by RP Coord) F11 - Does not apply F13 - Eliminate task (already done by OSC Mgr)	Yes	F1 - RP Coordinator F2 - RP Coordinator F3 - RP Coordinator F4 - RP Coordinator F6 - RP Coordinator F7 - RP Coordinator F12 - RP Coordinator	Yes	No	EN-EP-611, Att. 9.5	F5. NUREG 0654 II.K.1.e (RPC has this task)
Mechanical Work Coordinator	F1. Assign team members to the repair and corrective action teams F2. Conduct/participate in pre-job briefing for the assigned tasks. F3. Ensure repair and corrective action teams are tracked. F4. Ensure communication with the teams is maintained. F5. Participate in debriefing of returning emergency teams.	N/A	Eliminate Position	Yes	F1 - OSC Manager F2 - OSC Manager F3 - OSC Manager F4 - OSC Manager F5 - OSC Manager	Yes	No	EN-EP-611, Att. 9.4	N/A
I&C / Electrical Work Coordinator	F1. Assign team members to the repair and corrective action teams. F2. Conduct/participate in pre-job briefings F3. Ensure repair and corrective action teams are tracked. F4. Ensure communication with the teams is maintained. F5. Participate in debriefing of returning emergency teams.	N/A	Eliminate Position	Yes	F1 - OSC Manager F2 - OSC Manager F3 - OSC Manager F4 - OSC Manager F5 - OSC Manager	Yes	No	EN-EP-611, Att. 9.4	N/A
Operations Support	F1. Support the OSC as needed. F2. Ensure the SM is informed of OSC teams and activities. F3. Identify potential operational support needs.	N/A	Eliminate Position F1 - Eliminate task F3 - Eliminate task	Yes	F2 - OSC Manager	No	No	EN-EP-611, Att. 9.2	N/A
Technicians (Electrical, I&C, Mechanical, Maintenance, RP/HP, Chemistry)	F1. Support the OSC as needed.	N/A	N/A	No	N/A	Yes	No	EAP-46, Att. 3A	F1. NUREG 0654 II.B.5 (Table B-1)
JOINT INFORMATION CENTER									
Company Spokesperson	F1. Obtain briefing from the ED to ensure timely development of news releases. F2. Ensure that news media briefings are held regularly during the course of the emergency. F3. Serve as spokesperson at media briefings. F4. Keep the Entergy Vice President of Communications, or designee, informed throughout the emergency. F5. Resolve any known rumors or misinformation to the Media.	P1. Coordinate information with off-site spokespersons P2. Supervise preparation of briefing notes and support materials for media briefings. Coordinate media interviews with the JIC Liaison in response to media inquiries P4. Conduct routine interviews. P5. Ensure accuracy, timeliness and completeness of news releases. P6. Approve briefing notes and news releases for distribution. P7. Conduct periodic facility briefs with JIC staff	P1 - task from PRW	No	N/A	Yes	No	EAP-16.2, 4.2	F3. NUREG 0654 II.B.7.d/ II.G.3.a/II.G.4.a F5. NUREG 0654 II.G.4.c
JIC Manager	F1. Direct the activation, operation and deactivation of the JIC. F2. Obtain ED approval for the developed news releases and revise accordingly. F3. Ensure press release information is communicated to the offsite agencies. F4. Ensure press releases are coordinated with the offsite agencies. F5. Ensure appropriate timing, content and distribution of news releases. F6. Ensure activation of rumor control/public inquiry activities for response to questions from the general public. F7. Establish or ensure media briefing schedule. F8. Notify the Corporate Emergency Center (CEC).	N/A	F7 - eliminate task - CS already doing F2 - task from Info Coord F3 - task from Info Coord F1 - task from Log Keeper F3 - task from Logistics Coord P1 - task from Logistics Coord P2 - task from Logistics Coord P3 - task from Logistics Coord F1 - task from Press Release Writer P4 - task from Logistics Coord F1 - task from Inquiry Response Coord	No	N/A	Yes	No	EAP-16.2, 4.3	N/A
Technical Advisor	F1. Answer technical questions from the news media regarding the emergency situation. F2. Advise the Inquiry Response Coordinator on questions about radiation or nuclear technology to respond to phone questions from the public or media. F3. Assists the press release writer for technical accuracy, if JIC Technical Assistant position is not staffed.	N/A	F2 - change to Inquiry Responder F3 - change to "Assists the CS for technical accuracy of press releases"	No	N/A	Yes	No	EAP-16.2, 4.4	N/A

ERO POSITION MATRIX

Current ERO Position	EN-EP-801 Tasks (F#)	Other Procedural Tasks (P#)	Implementing Actions	Position eliminated?	Task Assigned to?	Min Staffing?	Key NRC PI?	Procedure(s) E-Plan section	Regulatory Requirement
Technical Assistant	<i>Optional in EN-EP-801</i> F1. Assists the press release writer for technical accuracy.	P1. Maintain a chronological log of significant events for posting in the utility workroom. P2. Develop approximate trending plots of key plant parameters as requested.	Eliminate position F1 - eliminate task (Tech Adv already has task) P1 - eliminate task P2 - eliminate task	Yes	N/A	Yes	No	EAP-16.2, 4.5	N/A
Media Liaison	F1. Verify the readiness of the JIC briefing area. F2. Ensures media is informed of protocol and schedules established for media briefings. F3. Receive and distribute press release information to the media in the JIC briefing area.	P1. Brief the Company Spokesperson on the media present at the JIC and their information needs. P2. During and between news media briefings, take note of any unaddressed issues. P3. Coordinate interviews between reporters and JIC staff/off-site spokespersons. P4. Record all media briefings conducted at the JIC for permanent record. Provide duplication and playback capability for recordings of earlier media briefings.	F1 - task from Logistics Coord F2 - task from Logistics Coord EAP-16.2 - task from JIC Clerical	No	N/A	Yes	No	EAP-16.2, 4.6	N/A
Information Coordinator	F1. Provide news bulletins / press releases for distribution F2. Supervise media monitoring and response activities. F3. Supervise public response activities. F4. Establish and maintain frequent contact with the communications personnel in the corporate office or CEC.	N/A	Eliminate position F1 - eliminate task (assigned to TA by elimination of Logistics Coord) F4 - eliminate task (JIC Mgr does)	Yes	F2 - JIC Manager F3 - JIC Manager	Yes	No	EAP-16.2, 4.16	N/A
Press Release Writer	F1. Fax copies of press releases to the CEC/Corporate Communications	P1. Develop press releases	Eliminate position	Yes	F1 - JIC Manager P1 - Company Spokesperson	Yes	No	EAP-16.2, 4.7	N/A
Logistics Coordinator	F1. Activate facility security and briefing center. F2. Maintain access control to the JIC. F3. Ensure distribution of all press releases to the offsite agencies, JIC/EOF facilities and to the Media Liaison.	P1. Supervise recording and photographioc services. P2. Coordinate auxilliary services such as travel, lodging and food services. P3. Ensure security support for the JIC. P4. Ensure staffing for continuous operation.	Eliminate position	Yes	F1 - Media Liaison F2 - Media Liaison F3 - JIC Manager P1 - JIC Manager P2 - JIC Manager P3 - JIC Manager P4 - JIC Manager	Yes	No	EAP-16.2, 4.9	N/A
Inquiry Response Coordinator	F1. Ensure activation of rumor control activities for response to questions from the general public and media. F2. Monitor and respond to the public/media inquiry calls and track trends. F3. Refer questions on radiation or nuclear technology from Rumor Control Center to the Technical Advisor	N/A	Eliminate position	Yes	F1 - JIC Manager F2 - Inquiry Responder F3 - Inquiry Responder	Yes	No	EAP-16.2, 4.12	N/A
Media Monitors	F1. Monitor TV and radio broadcasts for inaccuracies F2. Report all inaccuracies to the Information Coordinator to ensure they are addressed in the media briefings.	N/A	Change F2 to JIC Manager	No	N/A	Yes	No	N/A	N/A
JIC Log Keeper	F1. Maintain facility log on WebEOC or other acceptable method. F2. Support the JIC Manager as requested.	N/A	Eliminate position F2 - Eliminate task	Yes	F1 - JIC Manager	Yes	No	EAP-16.2, 4.8	N/A
Inquiry Responders	F1. Log questions that require a callback F2. Log rumors and provide to the Inquiry Response Coordinator	N/A	Change F2 to JIC Manager F2 - task from Inquiry Response Coord F3 - task from Inquiry Response Coord	No	N/A	Yes	No	EAP-16.2, 4.13	N/A
JIC Clerical	<i>Not standard in EN-EP-801</i>	EAP-16.2, provide clerical support in JIC - including credentialing	Eliminate position	Yes	EAP-16.2 - Media Liaison	No	No	EAP-16.2, 4.10	N/A

Attachment 6

James A. FitzPatrick Nuclear Power Plant

List of Regulatory Commitments

ATTACHMENT 6

List of Regulatory Commitments

This table identifies actions discussed in this letter for which Entergy commits to perform. Any other actions discussed in this submittal are described for the NRC's information and are **not** commitments.

COMMITMENT	TYPE (Check one)		SCHEDULED COMPLETION DATE (If Required)
	ONE-TIME ACTION	CONTINUING COMPLIANCE	
Revise applicable fuel handling procedures to require that a Chemistry Technician be on-site or the radiation monitors listed in the gaseous effluent EALs are in service as a prerequisite to handling or moving spent fuel.	x		Prior to permanent removal of fuel from the JAF reactor vessel